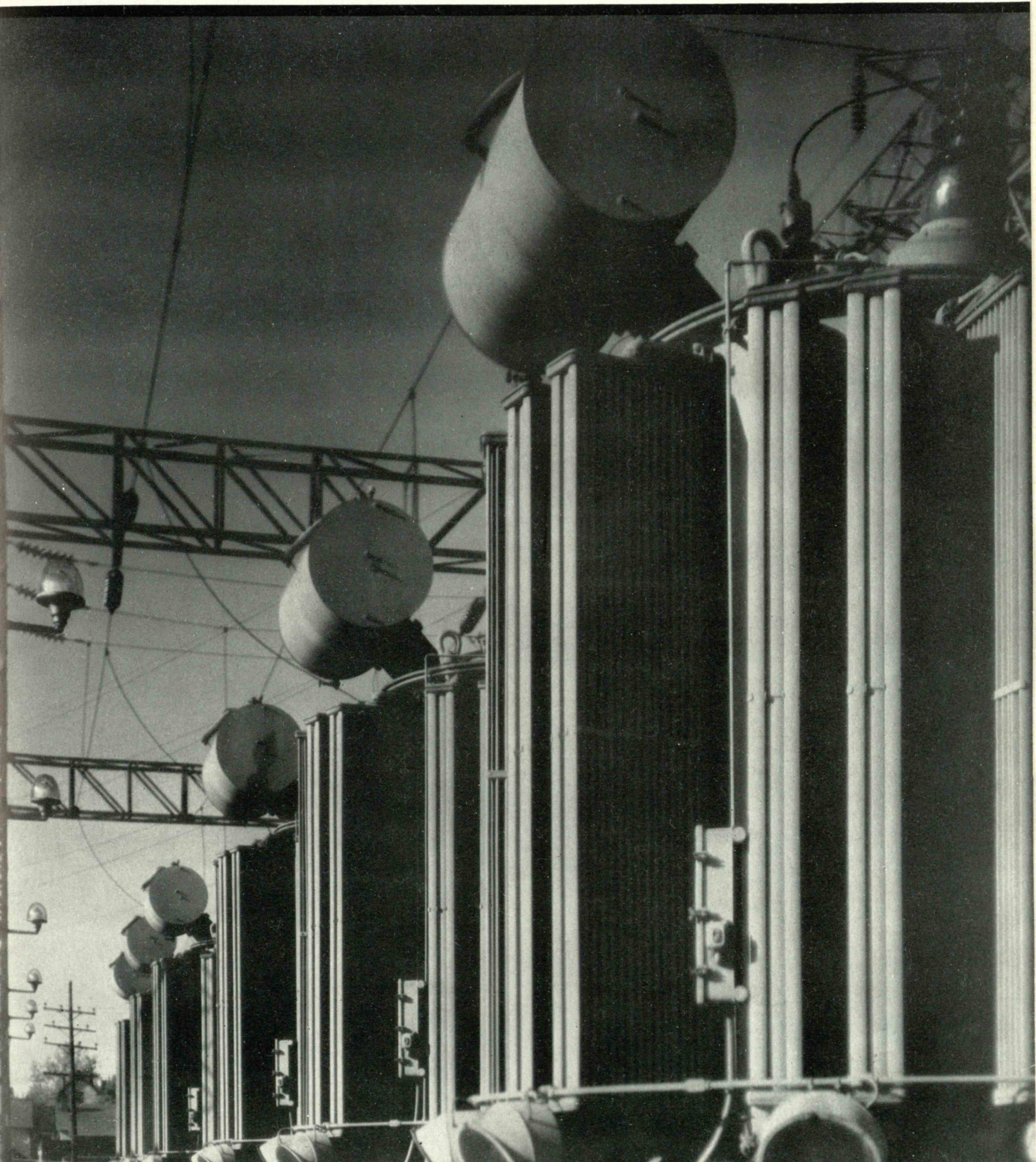


March 1936

TECHNOLOGY REVIEW

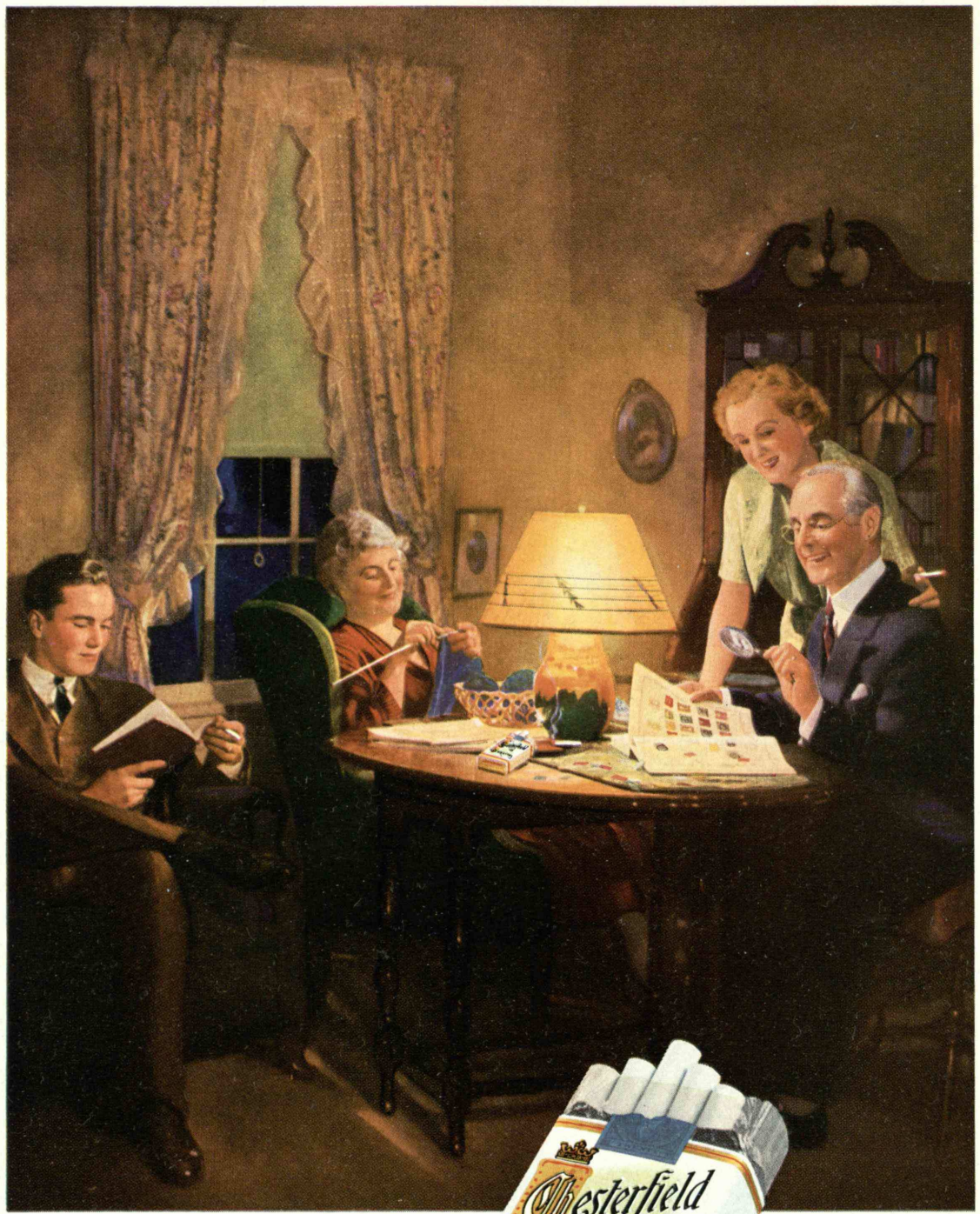
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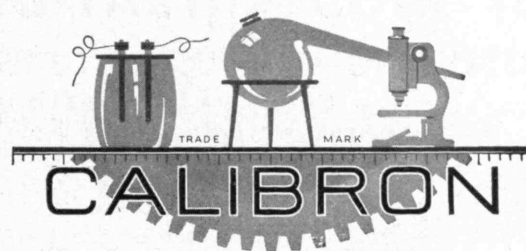
THE TABULAR VIEW

THE Fifth Edition of "Biographical Directory of American Men of Science," published in 1933, added stars to the names of 250 men regarded by their colleagues as leading scientific workers. One of these was Professor GEORGE R. HARRISON, Director of the Institute's Spectroscopy Laboratory, who came to Technology in 1930 from Stanford University. A contribution on the spectroscope's importance to industry was made by Professor Harrison in these pages in December, 1933 (page 87). The Review is glad to present him again as an author, this time as one who would inspire the atom with a "divine discontent." Professor Harrison, a physicist, is anxious that he be not thought presuming in writing of chemistry. His article was originally prepared for a broadcast sponsored by the Northeastern Section of the American Chemical Society in its notable and successful series of science talks presented in New England.

FORTY years as head of an economics department is a goodly period of time over which to study changing conditions in our world. Preface this by six years of teaching before taking the position of head; add to it such extracurricular duties as service on the Railroad Emergency Board to make investigations into the 1934 disputes between the Southern Pacific Lines in Texas and Louisiana and employees of the company and the disputes between the Mobile and Ohio Railroad Company, the receivers of the company, and its employees. The result is breadth as well as depth of economic knowledge. Such we have in Professor Emeritus DAVIS R. DEWEY. The thousands of Technology students who have known him as an inspiring teacher will welcome, we are sure, his appearance in these pages.

A brother of John Dewey, the eminent philosopher and psychologist, Dr. Dewey is also an author and educator of note. Born in Burlington, Vt., in 1858, Professor Dewey was graduated from the University of Vermont in 1879 with Phi Beta Kappa honors. After teaching for several years in the public schools, he entered Johns Hopkins University as a graduate student, and in 1886 received his doctor's degree. Dr. Dewey became Head of the Department of Economics at the Institute in 1893 and held this position until his retirement in 1933.

FREDERICK G. FASSETT, Jr., Assistant Professor of English at the Institute, has appeared in our pages a number of times. We have mentioned that he comes from Maine; we have expressed appreciation of the course he directs as an option of freshman English to assist men on the staffs of undergraduate publications at M.I.T.; we have credited him, as a co-author with Paul C. Eaton, '27, with the writing of two books, "Practical Writing" and "Studies in Reading"; we have mentioned him as the contributor of a book review in these pages (November, 1935, page 50). We now call to your attention two more book reviews on page 213 of this issue, and, in addition, we introduce you to a poet, page 224. *(Concluded on page 206)*



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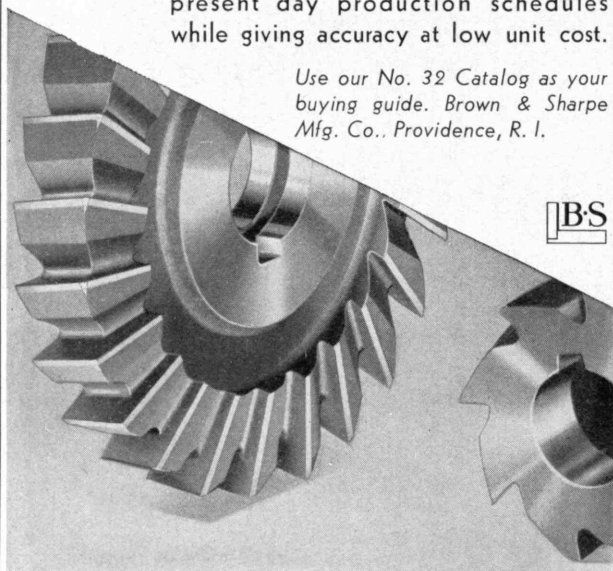
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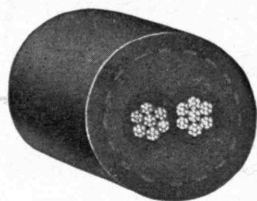
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THE TABULAR VIEW

(Concluded from page 205)

TO Institute Librarian WILLIAM N. SEAVER, who initiated it, and to Miss MARGARET P. HAZEN, who prepared it, we are indebted for the reading list, on page 223, of important scientific books, significant to the layman.

COVER CLUB member No. 2 is ALEXANDER PIAGET, of St. Louis, whose study of a row of transformers at the Page Avenue substation of the Union Light and Power Company, St. Louis, graces the cover of this issue. Mr. Piaget also contributes the frontispiece. As we wrote last month, the amateur photographer, such as Mr. Piaget, who has a print reproduced on our cover has attained, we like to feel, a measure of distinction in his work that warrants special notice. "We propose to give this recognition in this column each month, so far as possible, and by way of doing this, we announce the formation of the Cover Club, the membership of which will include those amateur photographers whose work is printed on the cover."

IN April The Review will present a special issue marking the 75th anniversary of the granting of the Institute's charter. The usual Review coverage of science, engineering, and Technology news will be supplemented by articles on the history of the Institute.

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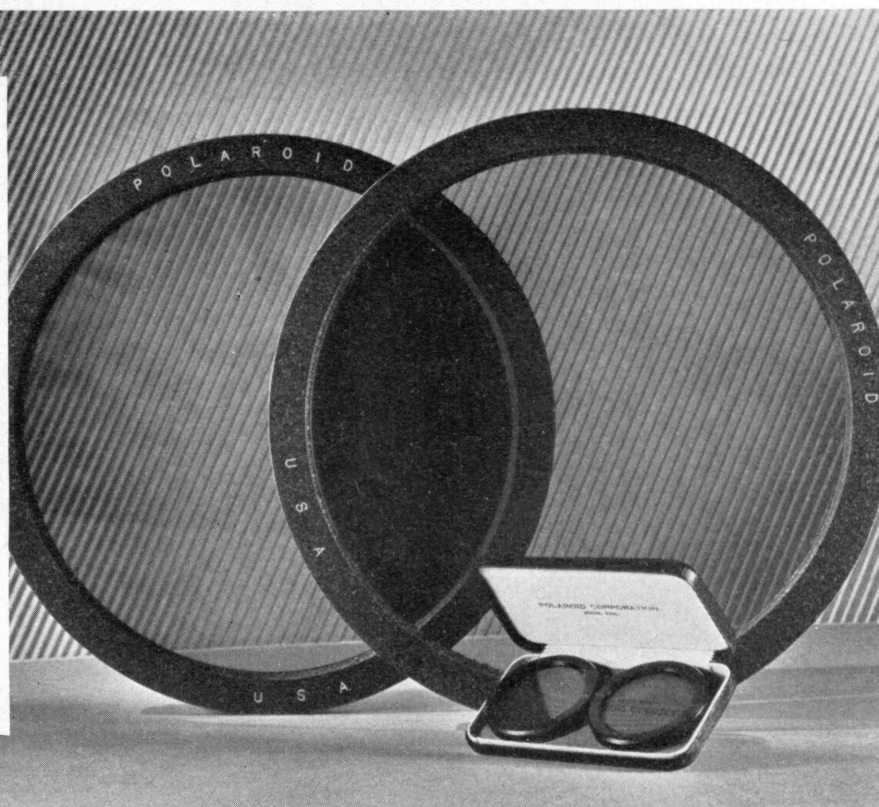
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George R. Slade*

THE TECHNOLOGY REVIEW

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EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

VOL. 38, NO. 6

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Transformers, from a photograph by Alexander Piaget

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Alexander Piaget

Somersaulting a Coal Car

THE TECHNOLOGY REVIEW

Vol. 38, No. 6



March, 1936

The Trend of Affairs

Shoppers' Guide

IF The Review Editors were assembling an exposition of new products and discoveries, important and unimportant, but novel, useful, or beguiling for their ingenuity, here are some of the items they might include at this time:

❑ The National Physical Laboratory of England reports the development of a new motor oil containing small quantities of tin and chromium in solution. The metals deposit on the surfaces of working parts and are said to reduce wear by 50% through their resistance to corrosion, one of the chief enemies of cylinder walls.

❑ One of the windows in the Vatican is made of a new type of glass in which "glass silk" is compressed between two sheets of ordinary glass. Developed by a British manufacturer, the new glass, which can be made in many colors, is said to diffuse light evenly. Another interesting window, in which thin Alabama Madre cream marble takes the place of glass, may be seen over the entrance to the Pennsylvania Station at Newark, N. J. The marble pane, which is half an inch thick, permits the passage of light, but reduces glare and heat.

❑ The rapid seasoning of certain species of wood by soaking or boiling them in a chemical solution is a recent achievement of the United States Forest Products Laboratory at Madison, Wis. Wood treated by this method does not require kiln-drying.

❑ From the Engineering Experiment Station of the University of Ohio comes announcement of a new building material described as "clay lumber," which is said to be fireproof, soundproof, strong, and cheap. The material is a baked clay product produced in strips four feet long and two feet wide. It may be tooled to shape, is an excellent insulator, and is expected to be useful where bricks are now employed.

❑ The use of phenol-formaldehyde resins as glue for veneers and plywood greatly extends the possibilities of these useful materials. The water-soluble glue hitherto employed as a bond has been a handicap which discouraged their use for many purposes for which they were otherwise ideal. While synthetic resin bonds are not new, their use for this purpose has only recently been accomplished successfully. The bond, known as Tego glue, is applied in the form of thin sheets. Veneers and plywood made by this method are already being used for furniture, radio cabinets, airplanes, and automobile bodies. The use of the new type of plywood for prefabricated houses is being considered.

❑ Creameries in South Africa are experimenting on the production of casein from buttermilk, a huge quantity of which is produced by its 700 plants manufacturing butter. The casein would be made into buttons and other such products salable in the domestic market.

❑ One of the latest uses for versatile rubber is in the form of drums for the shipment and storage of acids and other corrosive liquids, the handling of which has long been a problem. Many advantages are claimed for the new rubber containers: they are practically indestructible, lighter, and more easily handled than glass or stoneware, carboys, and flasks, and are long-lived. The new drums may be stored in the open, for they are not affected by rain or snow. Liquids stored in them are not subject to decomposition by light.

❑ Those who know the problem of removing paint, grease, and other substances from the skin will welcome a new vanishing cream which protects the skin from all ordinary stains. Pro-Tec, as the new cream is called, is rubbed into the skin, forming a film which leaves the hands dry and flexible without any sensation of stickiness. This protective covering may be easily washed away without leaving any trace of dirt or grime. It is

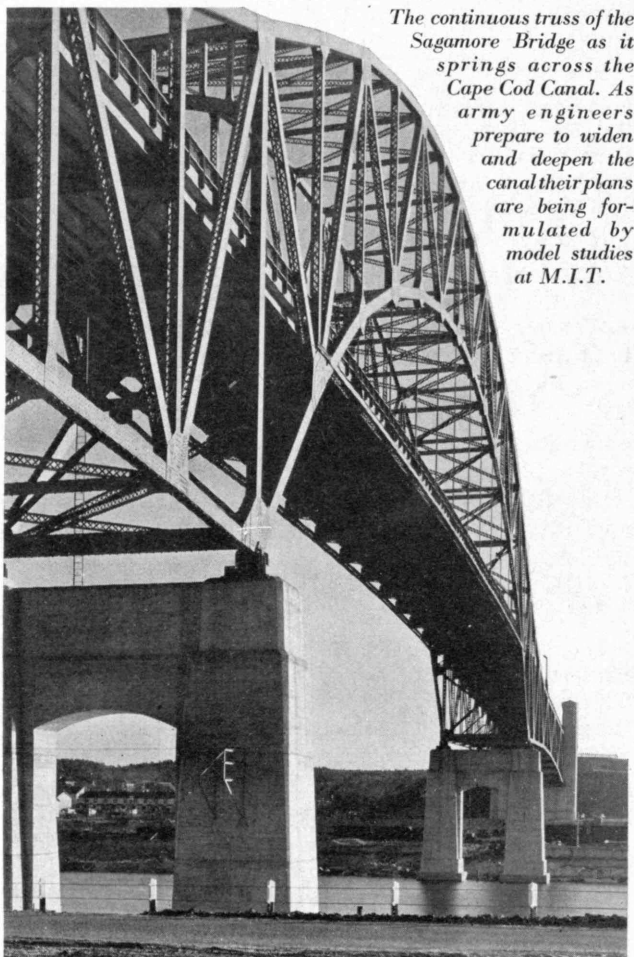
being used widely in industry and in the household, where it recommends itself especially to the man who tinkers on his car or works in the garden.

¶ A Cincinnati valveman has devised a method for detecting leaks in water mains and pipes by means of radio tubes coupled with a sensitive microphone pick-up. The device is connected with a hydrant or other valve that has a direct connection with the house or main line. The apparatus, it seems, has such an antipathy to leaks that it fairly sizzles as it is brought nearer and nearer the leak, finally roaring when in close range.

¶ There is a new nonskid bathtub with sloping sides and a wavy, embossed bottom. Inasmuch as more people are hurt in bathtubs than in airplane travel, this may prove a great boon, if skidding is actually prevented.

¶ Algeria offers a process for removing acid from olive oil so that it is not corrosive to metal. Thereupon the oil may be used in the crank case of a motor car or graphited for heavier lubrication purposes. The oil is best used in a mixture with a somewhat larger proportion of mineral oil.

¶ Germany announces an apparatus to fit on perambulators so that they can be rolled up and down stairs without jarring the young passenger. The apparatus is a type of roller which maintains the perambulator in a horizontal position and which will come to a standstill if for any reason the parent's grip on the pram should be released suddenly at mid stairs.



The continuous truss of the Sagamore Bridge as it springs across the Cape Cod Canal. As army engineers prepare to widen and deepen the canal their plans are being formulated by model studies at M.I.T.

Haskell



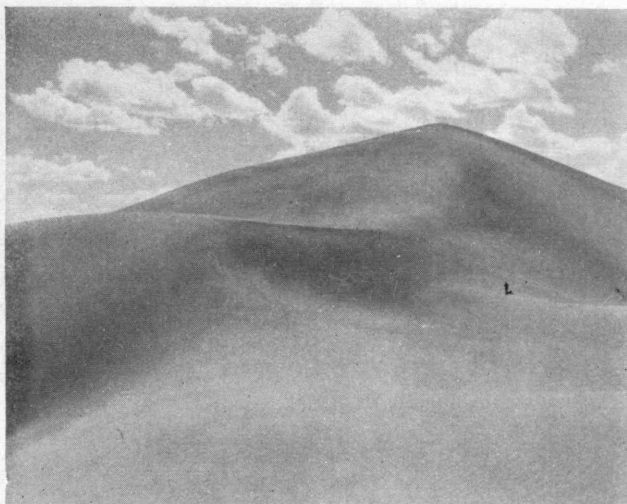
U. S. Bureau of Reclamation

The All-American Canal is being cut through these sand hills along the western side of the Colorado River

¶ For the harassed user of the public telephone, a Madison, Wis., manufacturer has contrived booths which remove at once the jumble of sound, bad air, and sweltering aromas. The booth works on the principle of absorbing extraneous sounds rather than attempting to cut them off. It is said to be effective enough in absorption so that no door is required to keep the speaker's voice from passing beyond the confines of the cellule.

¶ Electrical engineers are trying out a new pocket radio transmitter which is expected to be valuable for the adjective-adding process of reporting public events by radio, where and when they occur. The new transmitter, weighing less than a pound, transmits on waves approximately one meter in length. Its power is about two tenths of a watt, and its transmitting tower is just ten inches high. The unit proper consists of a three-inch cube of metal plates inside of which are located vacuum tubes about the size of acorns. Current is furnished by an external battery which may be carried on the back of the announcer. The tiny transmitter is designed as a pickup instrument for transmitting to the larger broadcasting studios where the program will be sent out through the regular broadcast channels. The midjet instrument has operated successfully over distances of four miles — experiments with a still smaller unit are in progress.

¶ Photographic prints in natural colors come a step nearer perfection in the Chromatone process, which is now offered to professional and amateur photographers as a comparatively simple method of making prints in natural color. Two young chemists, Francis H. Snyder and Henry W. Rimbach, worked out the process while searching for a better medium for making colored micrographs. The method is essentially a process of photographic color toning which is said to reproduce the colors of nature faithfully. It involves the production of three positive prints from either two- or three-color separation negatives. The prints are made on Chromatone print paper, which is a gelatine-collodion stripping film, and are then toned to the proper colors: magenta, blue-green, and yellow. The final step is superimposing these three prints in register on a white background.



Standley

Sandy solitude among Sahara-like dunes in San Luis Valley, Colorado

Photographers skilled in the production of ordinary black-and-white prints are expected to encounter no difficulty in making prints by the new process. Although it has been possible for several years to make color prints, the processes have been so complex and expensive that only experts were capable of producing acceptable results. Color transparencies on plates and films have been available for many years, but photographers are still seeking a simple and inexpensive method of duplicating prints in color. The Chromatone process appears to be a significant step in that direction.

¶ A camera capable of making a photographic record of the quality of tones and sounds has been developed at Harvard University, where the characteristics of musical instruments will be analyzed. The new speed camera makes it possible to record minute changes in tone between very fine and ordinary instruments. The photographic record made by this method is registered in terms of relative loudness of all parts of the sound, including fundamental pitch, the overtones, and incidental noises, such as the scratching of a bow on violin strings and the mechanical sounds that may be produced in certain wind instruments. A microphone picks up the sound in the range between 50 and 10,000 cycles and filters it electrically. The technique includes the use of a beam of light from a cathode-ray tube, which moves back and forth along a horizontal line in proportion to the strength of the sounds. The record is made by photographing the path of the light beam on sensitized paper.

¶ German scientists claim to have developed a nicotine-free tobacco which is said to be mild and pleasantly aromatic. They have also developed a type which contains as high as 15% nicotine, compared with 1.5% in normal plants. The high nicotine producing plant is to be used for insecticides for Germany's orchards and vineyards.

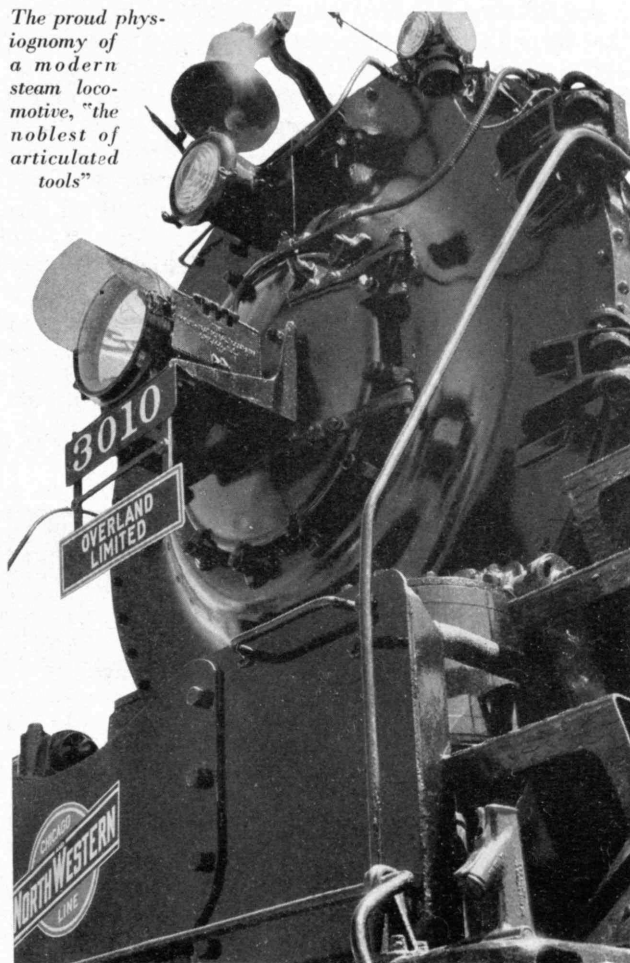
¶ If readers, keen in the pursuit of the new, have other items to suggest for The Review's pastepot-and-scissors exhibition, their recommendations will be gratefully and judicially appraised.

Dithyrambs and Dynamite

SHALL the scientist who wants to talk to the layman model his writing on tabloid headlines or on the Apocalypse? If he chooses either as a guide, his discussion of science, whatever phases of it he attacks, will be prejudiced by the connotations which his language sets up in the layman's mind. Whether those connotations will contribute to the layman's believing that science means anything to him, or should mean anything to him, is an open question. If the scientist chooses the first model, his prose will be staccato and its connotations will be those of the Machine with a capital M; if the second, his prose will be close kin to mystic revelation and its connotations will be those of titanic mystery and often sterile awe. Neither set of connotations is likely to be of much use in clarifying the average man's ideas about science and things scientific. Neither is likely to accomplish very much in helping the average man to bring the economic and sociological activities of the world into step with scientific advance.

Consequently the stylistic tone of popular books about science, insofar as it may set at naught the purpose for which the books were written, is more than a mere matter of rhetoric. The man of science, in assuming the magniloquent rodomontade of the seer or the periscopic staccato of a Winchell, has ignored the potentially very great effectiveness of the direct, factual, scientific prose

The proud physiognomy of a modern steam locomotive, "the noblest of articulated tools"



Korth

which is his own special implement. More than that, like both the seer and the Winchell, he has turned his back on the elementary precepts of common-sense English, which in the long run are the most effective.

Two recent books, "Autobiography of Earth"* and "The Next Hundred Years,"* bear out this point. The first, by Professor John Hodgdon Bradley of the University of Southern California, undertakes a survey of what we know about the origin and subsequent history of our planet and of the ways in which we have been affected by that history. Throughout the book he is anxious that the reader understand how small a thing man is in proportion to the forces involved in molding not only his domicile, but him as well. Obviously, this is interesting and important matter. The purpose which ties Dr. Bradley's book together — a purpose rather difficult to trace — is vitally important to the average man as well as to the scientific man. It is, essentially, to show that man must recognize himself as the creature of these forces, but as a creature who potentially could better adapt himself to them and them to him. The story is epic: The data are many and sound; but the writing is poetized rhetoric, full of the worst of Swinburne and Dickens, with more than a little of Byron at his most bombastic. As a consequence, it is a fair assumption that the point of what Dr. Bradley wants to say will be lost.

These are harsh strictures to lay on a man who writes with a strong conviction of the importance of what he has to say and with as evident sincerity as does Professor Bradley. But they may be justified on the ground that the scientist who remarks in passing on the sterility of classicism and the perils of emotionalism as manifest in religious fervor should not borrow their purple patches only, and on the ground that much of the very real worth of this book, in its detail, its sweep, its obvious effort at synthesis in a field sadly needing synthesis, is almost hopelessly canceled by rhetoric in which the reader too easily becomes lost.

The second of these books, which stylistically is really at the opposite extreme from Professor Bradley's, grew out of the fact that its author, Professor C. C. Furnas of Yale, went to the Century of Progress Exposition to

*Bradley, John Hodgdon, "Autobiography of Earth," New York: Coward-McCann, Inc., 1935.

Furnas, C. C., "The Next Hundred Years," Baltimore: The Williams and Wilkins Company, 1936.



Nearly 13,000 square feet of porcelain enamel, in a variety of colors and finishes, were used in finishing the interior walls, furniture, light fixtures, columns, and ceilings of the new laboratory of the Chicago Vitreous Enamel Products Company, Cicero, Ill.

see what we have to represent progress. He came away disappointed — rather worked up — and wrote "The Next Hundred Years" to appraise the unfinished business of science and to show how little we know, how much must be done if progress is to continue, and how the pattern of life must be altered to accommodate the results of scientific activity. His purpose is more immediately objective and practical, less philosophical, than Dr. Bradley's.

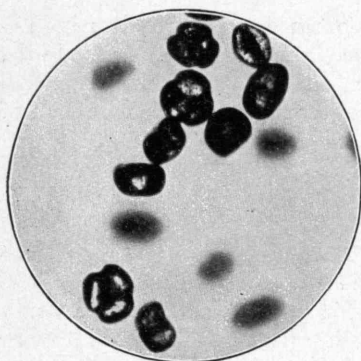
Biology, chemistry, physics, engineering, and the social consequences of these four are considered in turn; about each Professor Furnas has so much to say that his entire book keeps a breathless pace and reports so many deficiencies that any prior awe for science in the lay reader's mind emerges from the reading rather badly battered. Furnas' disappointment in visible evidences of progress, as the Exposition showed them, may consequently do good work as a corrective for the meretricious adulation of science which is too often engendered by its commercial exploitation.

It is not that his work is altogether negative: He has plenty of positive suggestions to make, and plenty of possibly catalyzing questions to ask. Implicit argument for the need of a synthesizer to be for biology in the present what Newton was for physics in the past; shrewd questioning of the too conscious "aristocracy" of modern physics among the sciences; a strong and

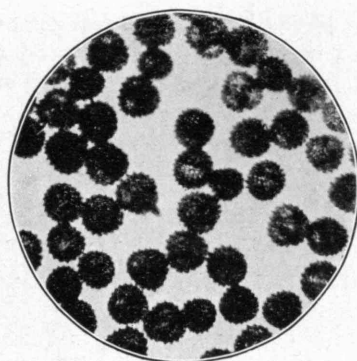


Vermont's familiar bucket yields to pipe lines. A network for collecting maple syrup, demonstrating how another noble industry has yielded to technological innovation

Fatrbanks

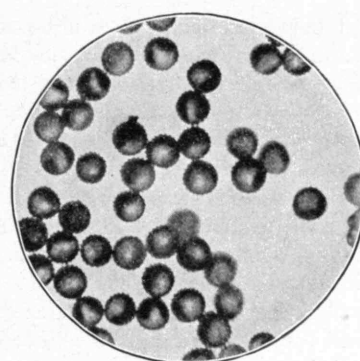


What wormwood pollen looks like
when enlarged 500 times



HAY FEVER VILLAINS

Pollen of the giant ragweed is diminutive but it creates grief enough



Courtesy of Sharpe and Dohme

The pollen of the common ragweed is only 1/500 of what you see above

clear statement of the case for academic freedom as a condition of the research which shall produce the envisioned progress of the next 100 years; fresh belaboring of the sociologist and economist to stir them into ordering a world which shall easily assimilate science — these stand out as the major elements of the dynamite which the Exposition led him to compound.

He has read and observed widely, has experimented, and, more important, has pondered. He has things to say which the average man must heed, when they are better said; but he writes a prose which must have been born of unholy union between Time and Chemical Abstracts, with Lord Timothy Dexter as *accoucheur*. It is staccato and chaotic, full of the overtones of "R.U.R." Perhaps because of the really immense amount of specific material which he compresses to about 400 pages, perhaps because of haste, it is often downright unintelligible: Sentences lack predicates or grammar is otherwise confounded. The average man, who would bog down in Dr. Bradley's extended rhetoric, will be knocked senseless by Professor Furnas' high pressure.

Somewhere between the two extremes here illustrated there is a mean of straight, direct English prose which shall draw on Revelations infrequently, on journalism infrequently, on Darwin occasionally, and on Thomas Huxley often, and as a consequence will be able to do the imperative task which these two books, in spite of the admirable intention of their authors, will not do.

Cross Crossings Cautiously — French Style

THE frugal French have, it appears, put science to work in lowering maintenance costs on French railways. Those who have toured the country will remember the railway-crossing gates, made of iron and rolling on wheels, which are gravely trundled across the highway by a mustachioed veteran of Sedan some 15 or 20 minutes before the arrival of the train. These gates are amply adequate to prevent the motorist from being hurt by the train, but not, alas, sturdy enough completely to resist the impact of an insufficiently braked Citroën. French statistics indicate, as a matter of fact, that more than half the accidents at French grade crossings involve only the automobile and the gate with no train anywhere in the offing.

Gallic motorists might have shrugged off the minor contusions indefinitely, but the time has arrived when the *P.L.M.* can no longer brook the constantly increasing bills for gate repairs. Some ingenious employee, therefore, has rigged up a parabolic mirror and neon-light arrangement operated by a 135-volt dry cell which lasts a year and which lights up automatically when the barrier begins to close and goes out only when the barrier is entirely reopened. Experiments on 12 crossings near Paris have justified 40 more installations. Day after day the joy is being taken from the life of the French motorist by that devil, Science.

On the Aeronautical Front

FROM our grab bag of aeronautical news we draw the following notes. ¶ The formation of ice on propellers of aircraft has long been a vexing problem. The Department of Commerce has announced the "slinger ring," a device that feeds a steady stream of anti-ice solution to the surfaces of the whirling blades. Airline operators are adopting it for their ships.

¶ The "visiometer," an instrument recently developed by the National Advisory Committee for Aeronautics, plots the blind spots in a pilot's line of vision and makes possible a plane projection of the three-dimensional field of view. With this knowledge a pilot may operate with greater accuracy, particularly in making landings.

¶ Steam still has its advocates as a source of power for airplanes. In California the Besler brothers are promoting a two-cylinder, V-type steam engine developing 150 horse power at 1,650 revolutions, abetted by a condenser reported to recover 90% of the water used. From Germany comes a report of the development of the steam turbine of 2,500 horse power for transports. Reports from Sweden and Italy indicate that engineers in Europe are giving more attention to steam than is generally realized. Other experiments with aeronautical steam power plants in this country include a two-cylinder opposed engine weighing less than 150 pounds with its boiler, developed by H. C. Johnson of Akron.

¶ A new method of driving airplane propellers with belts has been tried experimentally recently. An ordinary automobile engine was used with V-belts of rubber and textile composition. This method of transmitting power may have applications in small aircraft.

Considerations of flexibility and weight have led to the use of transparent plastics for windows in aircraft. Most of these materials have a weight less than half that of glass and the fact that they may be bent or molded makes them highly desirable for the many curved surfaces on airplanes.

One of the disadvantages of plastics is that their polished surfaces are soon impaired by sand and dust, oily cloths, and insects. Where clear and undistorted vision is essential, safety glass is now used, but in this application the surfaces must be flat. Most of the plastics used for windows in this country are made of cellulose acetate or cellulose nitrate. In England transparent synthetic resin of glycerol and phthalic anhydride is being used, but this material is less flexible than the

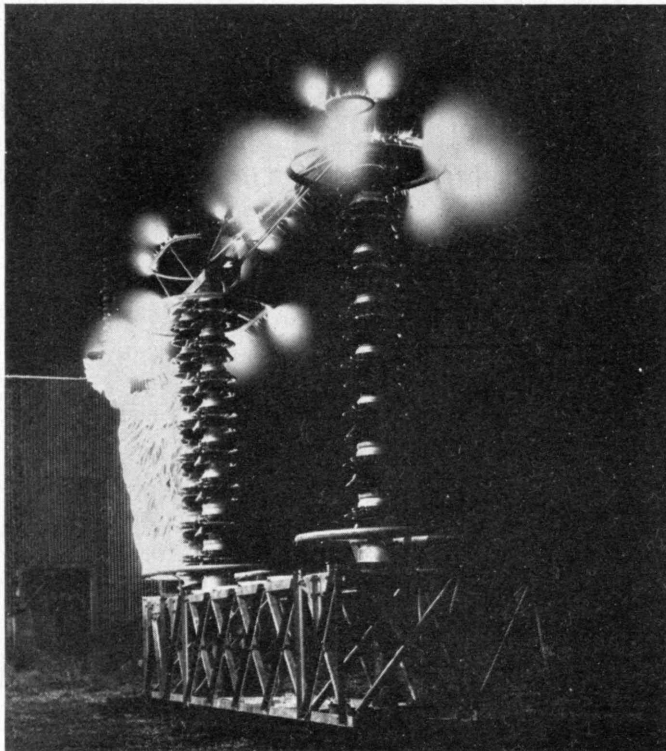
cellulose types. The importance of the problem is indicated by the fact that the National Bureau of Standards, in coöperation with the National Advisory Committee for Aeronautics, is making a survey of the entire field of transparent plastics.

Oasis in Detroit

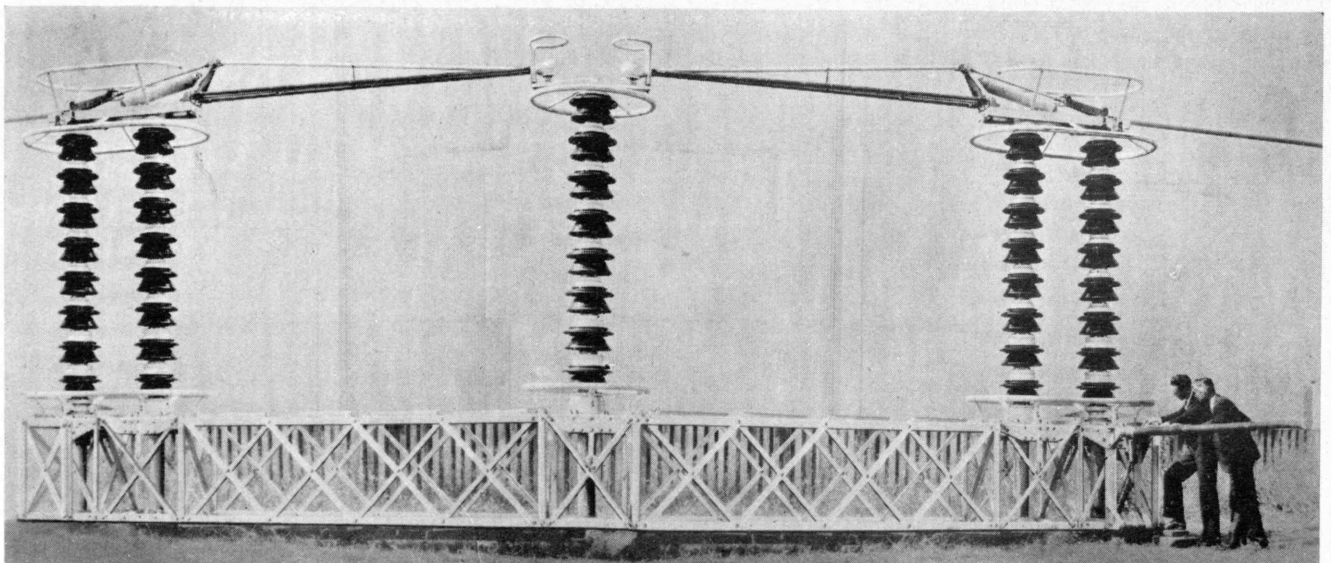
NO TOWER of Manhattan, no backwater of Baltimore, no nostalgic *vieux carré* of New Orleans, no glamorous Barbary Coast of San Francisco usually beckons the great foreign artist who wanders to our shores. Frequently for his inspiration he turns rather to fiery metal gushing from Pittsburgh's furnaces, to crackling grandeur of Schenectady's welders, to clang of steel on steel as Detroit's mighty presses turn sheets into shapes. Here he sees chimneys and transformers and conveyors as the epitome of power and men in masks and asbestos suits as pygmies fighting a desperate battle with modern Titans. Of all cities furnishing this inspiration, Detroit is Mecca.

As are many American cities, Detroit is noisy, bitter, aggressive, unbeautiful. It spreads in waves across the flat and unresisting Michigan landscape. To the north it washes against an island that is serene, friendly, unpretentious, and beautiful; it will remain so. This island is Bloomfield Hills and it houses Cranbrook.

Leaving Detroit's center one drives 20 weary miles straight north on Woodward Avenue, past the Art Museum housing controversial Rivera murals, past the General Motor's Building, past one of the ubiquitous Ford plants, past Detroit's new moated zoo, past Father Coughlin's exotic shrine of the Little Flower. Suddenly the street ceases to be straight, ceases to be flat. Suddenly one leaves the sandy,



World's largest. Two of the 12 gigantic triple-pole air-break switches installed at Boulder Dam for disconnecting equipment, when necessary, in the 287,500-volt, 266-mile transmission line from the power house to Los Angeles. Left. Flashover test at 850,000 volts. Below. One of four double units



Bowle Switch Company (A. J. Bowle, '96)



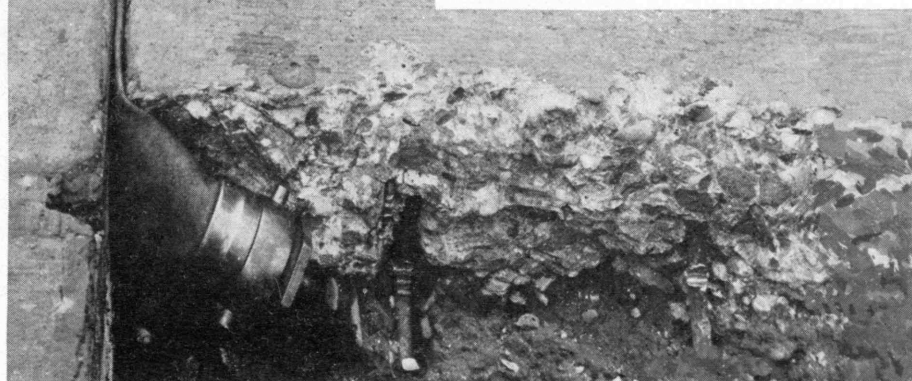
rather desolate plain and enters green and rolling country. One has arrived at Bloomfield Hills. Here lies Cranbrook.

Cranbrook is quite as much the result of fateful meeting as of prevision. In 1923 Eliel Saarinen, noted Finnish architect, whose work had made Helsingfors a place of pilgrimage, came to America to complete his drawings for the Chicago Tribune Tower competition. These drawings were awarded second place by the jury. What would have happened had Saarinen won first place is matter for conjecture. Cranbrook may exist because he lost. In 1924 to 1925 he spent a year as critic of senior architectural design in the University of Michigan. Here one of his students was Henry S. Booth, son of George Booth, wealthy Detroit publisher.

The idea of an institution had long been forming in the mind of the elder Booth who had already begun to cultivate his 350-acre estate for things other than personal pleasure and comfort. Son Booth was slated to carry out the Cranbrook idea. But as the plans

grew young Booth realized that the problem was perhaps beyond his experience and he called in Saarinen as advisor in 1925. Saarinen has been in Cranbrook ever since, and all the school buildings except Brookside School for Children are his creation, as well as many of the educational ideas.

Cranbrook is a school. It consists of several units separated geographically, but closely united spiritually: Brookside School (1918) cares for moppets; Cranbrook School (1926), for boys; Kingswood School (1931), for girls. These schools take youngsters through all the preliminaries to college education — preliminaries that make them fit to enter college. They have their eyes also on the higher schools, however: Cranbrook Academy of Art (1928) and Cranbrook Institute of Science (1930). Through the schools for the young, as through the schools for the older, run two basic ideas: the need for omnipresent beauty and the desirability of giving every student, whatever his years, all possible advantages and opportunities for self-development. Cranbrook Academy is not an art school in the ordinary sense. There are resident artists, to be sure, who form a more or less permanent staff: Finland's Saarinen in architecture; Sweden's Carl Milles in sculpture, Milles who came to spend a few months in Cranbrook in 1930 and who has made it his permanent home; Hungary's Zoltan Sepeshy in painting; Mrs. Saarinen in textiles. There are also visiting artists from all over the world who come for a few months or a year. Le Corbusier was a visitor last fall. It is in this environment that students work.



Compressed Air Magazine

Moving an eight-mile strip of concrete highway in New Jersey a lateral distance of 12 feet by compressed air. By inserting fire hose in the expansion crack and inflating the hose, the strip was moved two inches. Subsequent moves were made by successively blocking off the space cleared and repeating the inflation. By adding a new strip to the one moved, a three-strip highway was transformed into a four-strip road with a 12-foot division in the center

The Institute of Science, too, is not a school but a research institution manned by a staff of scientists working in the natural sciences. Part of the staff does extension work in the three Cranbrook Schools for the purposes of direct education and for the purpose of exposing the students to the work being done at the Institute. It has a small but excellent natural history museum and an astronomical observatory.

In the background of all the educational effort is the idea that there is little hope in the adult, that it is children who must be led to demand better things of their generation, be these better economic order, peace, or merely more beautiful surroundings. It is the young who must be made to feel the need for omnipresent beauty. Those with talent for its pursuit naturally graduate into the Academy of Art where they may become sculptors, painters, weavers, architects, ceramicists. Cranbrook is even more concerned with those who are to be not creators but patrons. These carry away with them ideas of beauty which it is hoped will stay with them all their lives and through them penetrate further into our civilization. A sign on one of the gateways aptly expresses the ideal: "... The Life without Beauty is only half-lived." This is Booth's antidote to Detroit.

Constant living with beauty is achieved in two ways: creation and association. Moppets and older children alike have relatively free access to studios of masters at work; they may even participate in that work. The youngest children play with blocks to build houses of their own desire with the help of Saarinen's sympathetic and understanding criticism. (Once they redesigned their nurseries, but this caused too many domestic crises.) Girls design textiles and execute them on hand looms. Little children model busts that would shame the exhibits of any city art league. Naturally there is some copying: There are a good many dolphins in the Milles catfish manner; a good many forked-column motifs are reminiscent of Saarinen. There is also much originality.

This craft method of education is unique enough, but perhaps even more unusual is the constant association with beautiful objects. These things — gay fountains by Milles, models of bird habitats designed and built in the Academy of Science with eyes avid equally for beauty and for accuracy, prints of old masters, textiles from hand looms — adorn every passage and every vista. Happy the girl or boy who can dine in the sprightly

dining halls that prove Saarinen no typical Finn, no dour, phlegmatic, nationalistic northerner, but a playful, witty, catholic-minded universalist. Even happier the boy or girl who daily everywhere as he or she walks from class to class or from dormitory to recreation field is always confronted by beauty — beauty profuse yet not in profusion, beauty nonchalant and never overwhelming. The designers of Cranbrook realize with the Japanese that good things must be seen alone. They know full well that a single Greek vase worshipfully exhibited tells more about Greek art to the growing mind than thousands of them

ranged in cases. Cranbrook's archaeological specimens whether in or out of the museum are few but choice, while due to Saarinen's manifold friendly contacts with modern artists, Cranbrook's modern collection is excellent.

In this oasis in Detroit a thirsty Eastern child may find the refreshment he seeks.

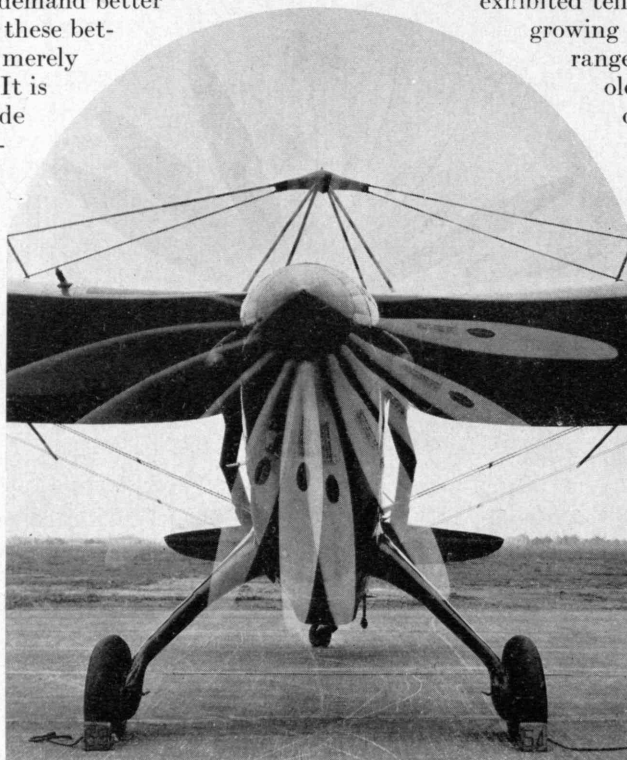
Engineers' Social Responsibility

IN his address at the Institute commemorating the Bicentenary of James Watt, Dr. William F. Durand concluded by making a forceful plea to the engineer of today to recognize the "wider view of the place of the engineer in this great coöperative enterprise of the advance of civilization; especially to remember, that he must not live for his profession

alone, but for the good of society as a whole; that only by joining with a whole heart in the study of these problems which spring, in so large a degree, from the work of those of his own calling, can he discharge his full duty to the world in which he lives. If James Watt were alive today, I believe that he would join wholeheartedly in this wider vision of the place of the engineer in the advance of civilization.

"... It is only the simple truth to say that the scientist and the engineer, working together, have in the last two centuries, literally made over the world — at least, as to the material content of our civilization. If this is indeed the case, how should it affect our concept of duty as members or prospective members of this great guild of the engineer?

"I have liked to look on civilization as a great coöperative enterprise, in which, as individuals or as groups or guilds, we contribute such part as we may, the sum total comprising the slow integration which has transformed us from what and where we were ... to the conditions of today. (Concluded on page 238)



Fatrbanks

The Hamilton controllable-pitch propeller in action. For inventing this "prop," Frank W. Caldwell, '12, recently received the Sylvanus Albert Reed Award of the Institute of Aeronautical Sciences

Molecular Planning

*The Superchemistry of the Future**

BY GEORGE R. HARRISON

IT IS NATURAL to expect an article on the superchemistry of the future to discuss marvelous new kinds of soap, or materials for making nonbreakable dishes, or compressed pills which are to contain all the vitamins and take the place of carrots, or some other of the thousand-and-one things which we expect the chemists of the future to cook up — a logical extension of the hundred-and-one things that present-day chemists are producing. But this would only be “the chemistry of the future.” I should like to outline a kind of superchemistry with which we have at present made only a beginning. In this superchemistry atoms will be made to combine into molecules in ways which have, up to a short time ago, been considered impossible.

The Review from time to time has described experiments which physicists have recently been carrying out, in which the fundamental nature of an atom can be changed by bombarding its nucleus with high-speed particles of matter. Extension of such experiments can be expected to lead to important results of the kind we are discussing; but until the number of atoms changed from one type to another is greatly increased, we cannot hope to reach the point where the product will have nearly as much importance as the process. Some eminent scientists have indeed declared that we shall never be able to produce transformations of atoms in quantity, but never is a dangerous word to use. Merely because a man is an authority on the universe is no reason why he should speak with authority on eternity.

The kind of superchemistry we shall now discuss presents no such problems; it involves only temporary changes in the external structures of atoms. It might be called molecular planning, for it is based on finding out what causes atoms to join together into molecules, then modifying the external structures of the atoms when necessary to make them join together into molecules they had not thought of forming, and, finally, persuading them to build up molecules of types which we do not at present possess, but would find useful.

Until very recently the methods of chemistry have largely been empirical; that is, if a chemist wanted to know what would happen when he mixed two chemicals, he mixed them and then examined the resulting mess, if it did not blow up. This is, of course, a very good way to experiment, but it restricts the results to cases which are pretty apt to occur in the everyday life of an atom. We are now approaching the point in our scientific knowledge where, instead of letting molecules just grow in the way they want to whenever atoms get together, we can plan out a molecule and arrange combinations of atoms which will do things that no molecules invented by nature would dream of doing.

* Revised from the 208th Broadcast on Chemistry arranged by the Northeastern Section of the American Chemical Society.

Let us first review briefly the nature of an atom, and look into the reasons why atoms combine to form molecules. This, when fully understood, may be expected to help us to predict what we should do to an atom to make it want to combine with other atoms to produce new and unusual molecules.

Looking at the material world about us, we see millions of different substances — cheese, ice, and geranium leaves, for instance. But when we analyze these chemically we find that all are made of some few hundreds of thousands of different molecules, arranged in various combinations. If we examine these hundreds of thousands of molecules, we find that all are made of only 90 different kinds of atoms; and if we examine each of these 90 atoms, we find that all are made of only two things, which for simplicity we may list as electrons and protons. I am purposely leaving out the newly found neutrons and positrons, which are not thoroughly understood and which are probably closely related to electrons and protons, if indeed two of these four are not actually composed of the other two. If there is no gap in our reasoning, then one should be able to change a piece of cheese into a geranium leaf merely by a rearrangement and redistribution of protons and electrons. We can already duplicate the smell of a geranium leaf, its taste, and its color artificially; whether we shall ever be able to make a synthetic geranium which will grow is another story.

Examining that peculiarity of an atom which makes it want to combine with other atoms in definite numbers to form a molecule, we take the simplest case: We know that the hydrogen atom, which has a single electron buzzing about its nucleus, does not like to wander around in a gas alone, but under most circumstances chooses to join with another of its kind to form a hydrogen molecule, H_2 . An atom of neon, on the other hand, shows quite a different disposition and prefers to go its way as an individual, so that molecules of neon gas are found to be single neon atoms. Still other atoms prefer to go in groups of three, four, or even more.

One explanation for this has been found to be that while some atoms do not like to go in pairs, electrons most decidedly like to do so when they are in atoms. Long after this fact was discovered, its explanation remained a mystery, until it was found that the electrons in all atoms are spinning like tops; in fact, they are little magnetic tops. Two such tiny magnets can hold together very powerfully, and since each wants to stay in its own atom, the two atoms will be bound together by the magnetic attraction between their electrons.

Another cause has been found for the holding together of atoms in molecules. We find that the electrons in an atom tend to group themselves into layers. Thus two of the electrons tend to go around in inner orbits fairly

close to the nucleus, much as the planet Mercury goes around fairly close to the sun, while others have orbits much farther out, like those of Neptune and Pluto in our solar system analogy. But instead of each selecting its own distance from the nuclear sun, the outer electrons cluster into orbital groups of six, ten, or some other even number, depending on how they are moving. Apparently when an atom has any number of these groups, each completely filled with electrons, that atom is quite well satisfied to conduct its affairs alone; but if it has an electron or two left over after all its layers have been filled, it will hold on to these rather half-heartedly and lend them to any other atom that wants them. Or, if it needs an electron or two to fill out a definite number of layers, it will borrow them by taking up orphan electrons that some other atom does not need.

This arrangement sounds ideal, but it has its peculiar consequences. The atom which has borrowed electrons, and that which has loaned electrons, find themselves linked together by bonds quite as strong as the chains linking an Ethiopian debtor to his creditor. For an atom which has loaned one of its electrons to another has a net positive charge remaining, while that which has taken on an extra electron has an extra negative charge. These positive and negative charges hold the two altered atoms together, and a molecule is formed.

The eleven electrons of the sodium atom buzz around in one group of two, another group of two, a group of six, and a single orphan electron which is not much wanted by the atom. A chlorine atom, on the other hand, has 17 electrons, 12 of which arrange themselves in closed groups, with five electrons over. These five could complete a stable group of six if they just had another electron. What then is more natural than that when they find a sodium atom nearby they should borrow its orphan electron? The two atoms then must willy-nilly go into partnership to form a molecule of table salt, sodium chloride. If at any later time they agree to part, the orphan electron leaves its circle of six happy companions, and goes off with its sodium parent.

Oxygen, with its eight electrons, as distinguished from chlorine with 17, lacks two electrons of those required to form closed groups. To be perfectly satisfied, then, when it finds itself in the company of hydrogen, it will borrow one electron from each of two hydrogen atoms, and the partnership will produce a molecule of H_2O , or water.

It is not difficult to follow this same sort of reasoning in explaining the building up of very complex molecules which will do all sorts of things that simple atoms would never think of doing. A soap molecule, for example, is a great long string of atoms hitched together by their mutual interest in electrons; it is much like a snake, with an active head and a long slim tail. Soap is such a good cleansing agent because it can dissolve greasy things or grimy things equally well. The head of the soap molecules attacks the grimy molecules; its long tail wraps itself around the greasy molecules, and a little water removes the string with its burden of dirt.

Chemists classify all the atoms in accordance with their valences, the valence of an atom being merely a measure of how many electrons it likes to lose, gain, or share. The inert gases, helium, neon, argon, krypton,

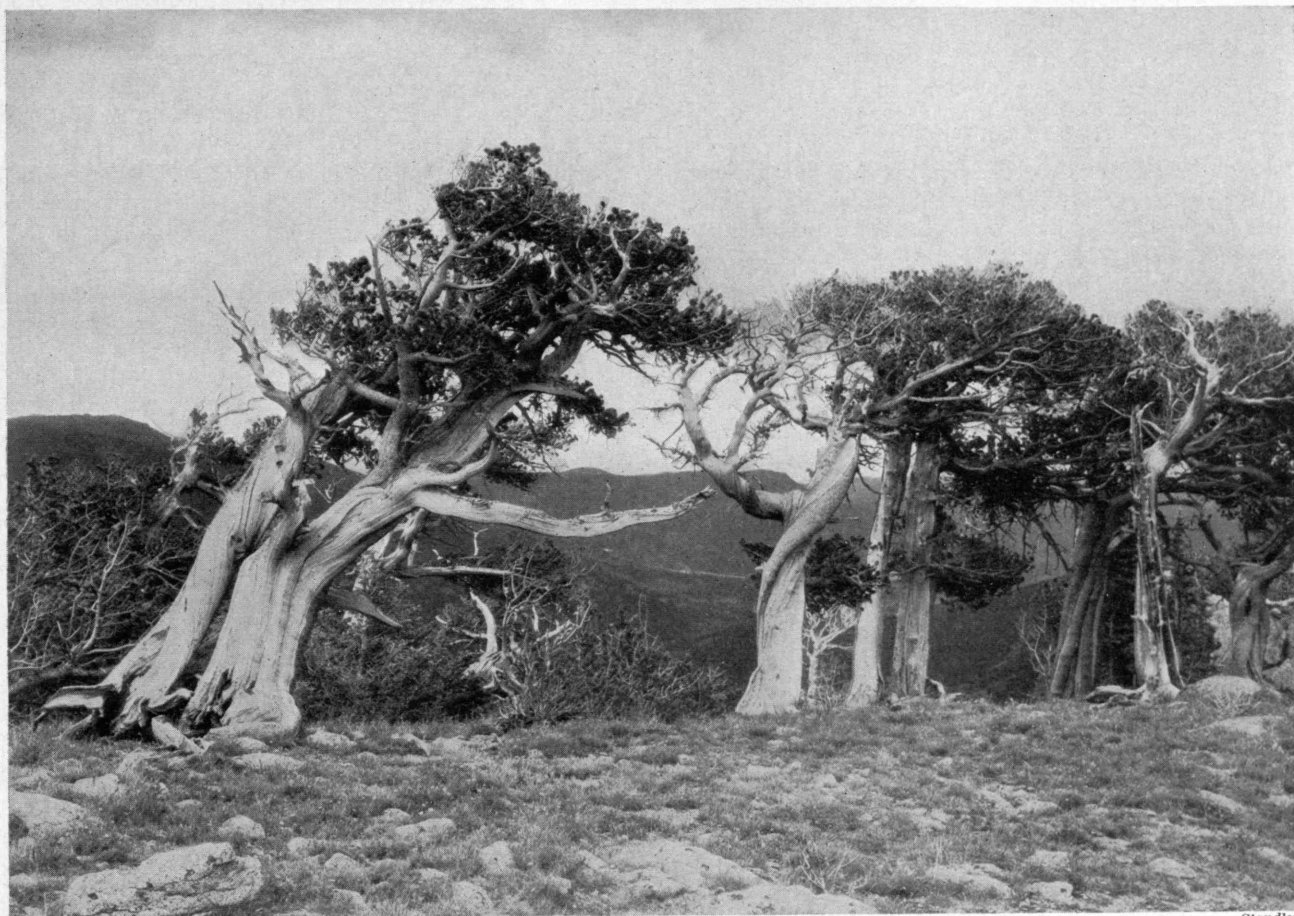
xenon, and so on, are quite well satisfied as they are; they have shells exactly filled with electrons and hence do not care to form chemical compounds. Lithium, sodium, potassium, rubidium, and caesium each have an extra electron, so they tend to give this up readily and to combine with atoms which need an extra electron, such as fluorine, chlorine, bromine, and iodine. A carbon atom needs four extra electrons to keep it really satisfied; usually it gets these by sharing them with other atoms. Thus are the thousands of known organic molecules built up. Carbon atoms, when they find themselves alone without other kinds of atoms to share electrons with, may decide to share each other's electrons, and build up great crystalline pyramids and clusters, millions of atoms long, broad, and thick. We call these diamonds; and when we remark that a diamond is the hardest substance known, we should remember that the hardness is due entirely to the force with which these tiny electrons are holding on to each other in pairs, and hence holding the atoms together.

Now we are ready to talk about molecular planning. Can a pair of atoms which ordinarily do not wish to form molecules be made to form molecules and like it? It is beginning to look as though the answer to this question is "Yes."

Suppose we take as our specific problem that of making a helium atom behave as a hydrogen atom ordinarily does. Helium is one of the inert gases; the helium atom contains two electrons, which cluster together in a group of their own, so this atom is quite satisfied to lead a monastic existence and form no entangling alliances. What can we do to this atom to inspire it with a divine discontent of the sort that animates the hydrogen atom which is never satisfied to be alone, but will go into partnership with almost any other atom? The answer is, we must make the helium atom temporarily think that it has lost one of its electrons and needs another; perhaps, while in this intoxicated state, it will behave like the hydrogen atom which it temporarily resembles, and take on a partner. This part is easy; the difficult part is to make this partnership stick after the helium atom has time to look the situation over.

Scientists have found in recent years that one can make the electrons in atoms jump around from one orbit to another by stimulating them in various ways — such as by shooting bullets of light or matter at them. So let us take our helium atom with its two electrons, and shine a strong beam of light on it of just the right color to make one of those electrons jump out from the small orbit where it usually is, to a far-distant orbit, still in the atom, but removed from that of the companion electron. This process is called exciting the atom, and a very descriptive term it is. Excited atoms behave very differently from normal atoms. The excited helium atom feels like a hydrogen atom, and while in this hypnotized state will behave as though it were one.

Unfortunately it will stay excited for only a few millionths of a second if left alone. The whole of this super-chemistry we are talking about, which is merely the chemistry of excited atoms, depends upon our ability to produce a permanent combination with an excited atom before the electron falls back to its normal orbit. Just as one can, while not quite one- (*Concluded on page 238*)



Standley

Timberline trees, Mount Evans, Colorado

No Economist Can Be Indifferent

Where Shall Wisdom Be Found?

BY DAVIS R. DEWEY

This article is drawn from an address delivered by the author at a recent meeting marking the 50th anniversary of the American Economic Association. Not only has Dr. Dewey been a member of the Association since its inception, but he has edited the Association's journal, *The American Economic Review*, since its establishment 25 years ago.

THE EDITOR

AS time runs on, and I look about me in these days of turmoil, I sometimes wonder whether I know any economics at all; and in the darkest moments of my despair I have even gone as far as to question whether the 25 bulky volumes which face my desk have left any impress upon our national mind. Like Job I am tempted to say:

Where shall wisdom be found? And where
is the place of understanding?
Upon my right hand rise the youth; they
push away my feet, and they raise up
against me the ways of their destruction.

The word "youth" should doubtless be given an elastic interpretation, for it will be remembered that Job lived more than a hundred and forty years.

However, economic depressions have their compensations, for at least we can see economic laws working to

completeness. They do not have to be reviewed by a supreme court. It is not often that the economist has such a well equipped laboratory at his disposal. No longer does he have to wait until old age to see the relationship between cause and effect. Even when energy is misapplied, there is a mournful satisfaction in witnessing a perfect demonstration of a destructive experiment. Undoubtedly the inventor of dynamite would have been disappointed if his concoction had failed to explode and tear the earth apart. So, even in darkness, I receive some solace and renew my faith in the principles of our science.

The economist has learned to be very humble. Contrast him with the physicist. In the conduct of electrical energy, the formulas of the physicist are slavishly followed by every practitioner; and the physicist, who has gone beyond the drudgery of explaining the relative merits of direct and alternating currents, can assail the public ear with his theories of neutrons, ions, protons, electrons, and other tom-toms, and is regarded as wondrous wise, and is a candidate for the Nobel prize.

But let an economist talk about economic equilibria, economic incentives, inelasticity of demand, and marginal social net product, and, instead of being a candidate for a prize, he is marked as Public Enemy No. 1. Fortu-

nately, he still has a refuge in the college classroom, where he can preach his outlawed philosophy to adolescent youth whose minds are preoccupied with a host of other interests.

Or, perchance, he may have a group of more serious and advanced students who, after conversion to his program of truth, go forth and, like their masters, struggle with new reinforcements of adolescent youth.

This is a sad picture, probably extravagant, and doubtless should be called a cartoon rather than a picture; but a cartoon sometimes has its lesson.

No economist can be indifferent to current policies of government. Economists do not frame our legislative acts; they are, however, concerned that legislators and administrators give decent respect to fundamental economic principles.

Economic concepts and political democracy appear to occupy two separate spheres. You may recall the conversation between a young man and a notable senator. The young man stated that such-and-such was an economic fact. The senator replied, "It may be an economic fact, but it is not a political fact, and Congress acts on political facts."

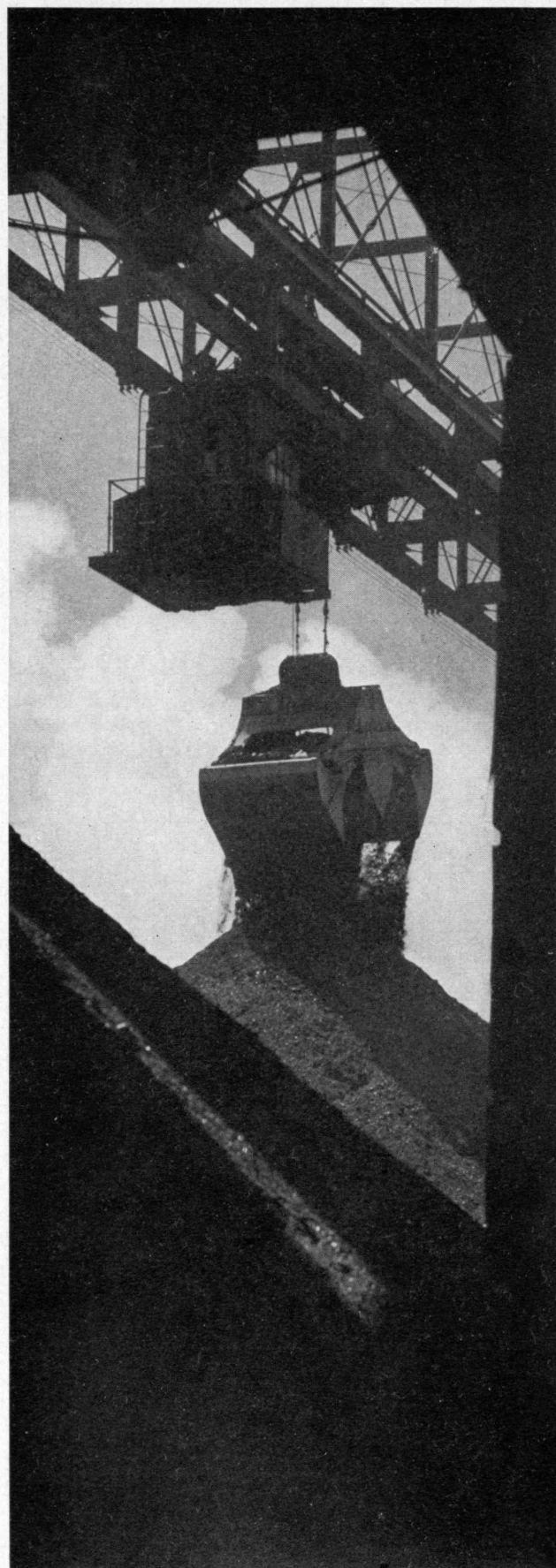
No one of us, I presume, wishes to abandon political democracy; but we should like to have economics (please note that I say "economics" and not "economists") invited to resettle from the lean, submarginal territory of the classroom onto the more fertile soil of political democracy. We believe that with such an opportunity we could reap a rich harvest; and this does not mean that we should grow the same crops as we did in the Twenties.

No talk on economics nowadays is complete without some reference to the New Deal. I dislike the term "New Deal." It savors too much of a game of idle amusement in which chance plays a considerable rôle. I should prefer "New Plan," and I have hoped for a New Plan long before the present depression set in. However, if we must talk about the New Deal, let us use the language of the card player. Much of the present New Deal is wrongly named; it is an Old Deal, based on rules which economics junked years ago. If we are to have a New Deal, let us have the cards played by those who know the rules. As yet neither party has emerged from the rules of mid-Victorian whist. It is time to bring the rules down to date. This is an age of contract and big and little slams and disastrous penalties for getting set. Revoking is too common, and too frequently the player trumps his partner's ace. We need to pray for a Culbertson, a Sims, a Work, or some other bridge master mind, and the kibitzers should not crowd the players. Psychic bids should be rigidly shunned.

Some of us think that playing the Deal according to sound economic rules might not only restore prosperity, but lead to a continuous abundance whereby the standard of living will ever be raised.

We must still look forward to a genuine New Deal. This is no time, however, to explain the rules; and I may be accused of drifting into frivolity. So I turn back to the Scriptures, and comfort myself by recalling the closing chapter of the biography of Job. Job lived through his trials; he raised a new family, and

. . . the Lord gave Job twice as much as he had before.



Coal-handling equipment

Photo-Media-Bartlett

New Pathways in Science

A Reading List of Books on the Applications, Implications, and Achievements of Modern Science

COMPILED BY THE M.I.T. LIBRARY

- BENEDICT, RUTH. Patterns of culture. Houghton Mifflin, 1934.
"Stimulating and at times provocative book, importing the theory of relativity into the study of social anthropology." — *Nature*.
- BOYD, T. A. Research; the pathfinder of science and industry. Appleton-Century, 1935.
"One might not expect to find charm of style in a book on modern scientific research. But charm is an outstanding characteristic of this volume, which is an interesting, useful, and practically important addition to the slender stock of literature on research." — *New York Times*.
- BRADLEY, J. H., JR. Autobiography of earth. Coward-McCann, 1935.
Reviewed on page 213 ff. of this issue of The Review.
- CARREL, ALEXIS. Man the unknown. Harper, 1935.
"So rich in subject matter, so vital in its observations that it has become one of the few scientific books to make the national best-seller list." — *Scientific Book Club Review*.
- DAVIS, WATSON, editor. The advance of science. Doubleday, Doran, 1934.
"We know of no other book of 400 pages which carries an equal amount of authoritative scientific material in so many different fields." — *Industrial and Engineering Chemistry*.
- EDDINGTON, SIR A. S. New pathways in science. Macmillan, 1935.
"An admirable presentation of the conceptions of the relativists and the quantum theorists — admirable by reason of Eddington's literary grace, imagination, and high gifts as an expositor of mathematical deductions, which, it was supposed, could not be translated into mere words." — *Review of Scientific Instruments*.
- EINSTEIN, ALBERT. The world as I see it. Covici, Friede, 1934.
"A great thinker who has not lost the common touch, a solitary who has kept an extraordinarily acute sense of social responsibility, a man of the most unshakable convictions who can defend against tremendous odds the most passionate of his beliefs without feeling the slightest rancor." — *New York Herald Tribune Books*.
- HALL, SIR DANIEL, and others. Frustration of science. Foreword by Frederick Soddy. Norton, 1935.
"Crammed with comments on the remarkable strides made in applied science and those possible in the future; . . . equally full of illustrations of the mismanagement of this science because of personal and nationalistic selfishness." — *Scientific Book Club Review*.
- FURNAS, C. C. The next hundred years; the unfinished business of science. The Williams and Wilkins Company, 1936.
Reviewed on page 213 ff. of this issue of The Review.
- GILFILLAN, S. C. The sociology of invention. Follett Publishing Company, 1935.
"One of the most acute and sensible books that have been written on the subject of invention." — *New Republic*.
- HUXLEY, JULIAN and E. N. DA C. ANDRADE. Simple science. Harper, 1935.
"Shows what science is prepared to do for man; when, as, and if man gives the Open Sesame." — *New Republic*.
- JAFFE, BERNARD. Outposts of science; a journey to the workshops of our leading men of research. Simon and Schuster, 1935.
"Records the latest of scientific research and presents brief vignettes of the personalities back of the work." — *Saturday Review of Literature*.
- JEANS, SIR JAMES. Through space and time. Macmillan, 1934.
"Modern concepts . . . made unusually comprehensible by clever analogy and apt comparison with events and things which come within the range of ordinary experience." — *Scientific Book Club Review*.
- LEMON, H. B. From Galileo to cosmic rays; a new look at physics. University of Chicago Press, 1934.
"An extraordinary and notable volume: a 'text-book' on one of the most abstruse of the sciences that can actually be read, enjoyed, and depended upon by student and layman alike." — *New Republic*.
- MILLIKAN, R. A. Electrons (+ and -), protons, photons, neutrons, and cosmic rays. University of Chicago Press, 1935.
"It is safe to say that the whole of the present generation of American physicists has derived inspiration from Millikan's famous little red book, 'The Electron.' Now we have a second edition . . . that carries us through the recent experimental discoveries of new fundamental principles." — *Review of Scientific Instruments*.
- PARTINGTON, J. R. Origins and development of applied chemistry. Longmans, Green, 1935.
"This authoritative, well-documented, yet readable work gives a complete survey of the rise and progress of the use of materials in the great centers of ancient civilization. The book, the first of its kind to be published, is based on the most recent research." — *Journal of Scientific Instruments*.
- READ, H. E. Art and industry; the principles of industrial design. Harcourt, 1935.
"Shows how the same artistic spirit to be found in the present-day art has begun to affect the design of everyday objects." — *Pratt Institute Quarterly Booklist*.

RICHMOND, D. E. The dilemma of modern physics; waves or particles? Putnam, 1935.

"To bring the entire question down to earth from the rare atmosphere of higher mathematics is not an easy task, but it is well accomplished by straightforward descriptions of experiments and observations, so that the reader who lacks any intensive training in physical science can readily grasp the nature of the problem." — *Scientific Book Club Review*.

SCHRÖDINGER, ERWIN. Science and the human temperament. Norton, 1935.

"We know that the new physical theories deal largely with new concepts concerning atomic phenomena, but how many of us can demonstrate to our own satisfaction how or why the new conceptions of matter should affect us subjectively, socially, and esthetically? Schrödinger, with a fascinating clarity, elucidates this intellectual phenomenon." — *Library Journal*.

SEARS, P. B. Deserts on the march. University of Oklahoma Press, 1935.

"Written out of wide and accurate scientific knowledge and

in the philosophic spirit . . . that deserves to be classed as literature as well as science." — *New York Times*.

SULLIVAN, J. W. N. Science: a new outline. Thomas Nelson and Sons, 1935.

"A concise, lucid survey, free from technicalities, of the main facts in the sciences of life and matter." — *A. L. A. Booklist*.

SWANN, W. F. G. The architecture of the universe. Macmillan, 1934.

"From an immense field of confused fact he has selected the most vital elements and woven them into a picture of the universe that justifies the title of his book." — *New Republic*.

WHITEHEAD, A. N. Adventures of ideas. Macmillan, 1933.

"I cannot imagine any person with an interest in general ideas (historian, scientist, philosopher, sociologist, and literary critic) reading this book . . . without immense intellectual stimulation and refreshment." — Carl Becker, in *American Historical Review*.

Soliloquy in a Laboratory

BY FREDERICK G. FASSETT, JR.

I

80° N, 40° W

*Wild wails the wind along the wild white waste,
A lone wind hurtling ever from the pole:
The ancient snows that in dim ages raced*

*Before it, now in trackless billows roll
From the lost center to the ice-blink's gleam
Far on the vague horizon. Here is the soul*

*Of soullessness, of life fixed dead in a dream
Of death, a vast abstract of emptiness,
Hueless, scentless, all Act massed in this stream*

*Of chill invisible extinction. Excess
Holds power, and the end is nothingness.*

II

9° 25' N, 79° 50' W

*Savage the yellow slash of sand that cuts
The green sea from the greener jungle: warm
And teeming sea alive with avid guts,*

*Green steaming gloomy land spawning a swarm
Of lustful being voiced in the scream of greed —
A vocal lightning searing through the storm*

*Of being, from looped liana in its need
Strangling its tree, to serpent on its wound
At hunt — "Ere thou on me, on thee I feed!"*

*Self-preying, through too many forms unbound,
The lush life flows back to the lavish ground.*

III

Μηδέν ἄγαν

*Drone, motor; rustle, belt; work, system of Force,
Of Unknown Force controlled and still unknown,
That mastery bring knowledge in its course.*

*Thus as the surge through measured Void is thrown
That in the emptiness it shatter Mass,
Thus as the unseen Ultimate is blown*

*To newer Ultimates that flashing pass
From thing to speed, this Man who silent stands
Key to his ordered maze of labored glass*

*May probe the Infinite with finite hands —
The king-slave only of his own commands.*

IV

Γνωθι σεαυτὸν

*Dominion is not his, for he and all
His tools — his very will that seems to sway
The whole, that seems the inanimate to call*

*To sense — are but defenses for a day,
So slight a day, put forth by that Surmise
Which is the hunt, the hunter, and the prey.*

*His being witnesses the urge that plies
Within the shadowed atom's mystic dance,
Pledge of the unseen Finality's emprise*

*That it at last shall gain self-cognizance,
That Will shall rule the blind extremes of Chance.*

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

Plans for Alumni Day

OF national importance will be the Conference on Transportation planned for Alumni Day, June 8. The Presiding Officer will be the Hon. John Monroe Johnson, distinguished civil engineer and Assistant Secretary of Commerce, who will introduce the speakers representing the four major fields of transportation. The speakers will discuss the broad social implications of present-day trends in air, water, highway, and rail transportation. Should I or my son seek a career in transportation? What are the investment possibilities in this field? What is the outlook in the four transportation fields? Such are some of the questions which Alumni frequently ask and upon which they may obtain help at the Conference.

At the evening dinner in Symphony Hall on Alumni Day, the Hon. Joseph B. Eastman, Federal Coördinator of Transportation, will speak (he will also participate in the morning Conference), as will Dr. George E. Vincent, former President of the University of Minnesota and of the Rockefeller Foundation, and Dr. Compton, President of Technology. The Hon. Newton D. Baker, former Secretary of War, the commencement speaker of the following day, will be a guest of the Alumni at the dinner.

With these definite speakers and events already arranged for, it is evident that the Reunion Committee is well advanced toward its objective of making 1936 Alumni Day a notable occasion for Technology Alumni. Building upon the experience gained last year, the Committee is arranging a program of both serious and entertaining events that will provide a day attractive and important to Technology men everywhere.

Friends of the Library

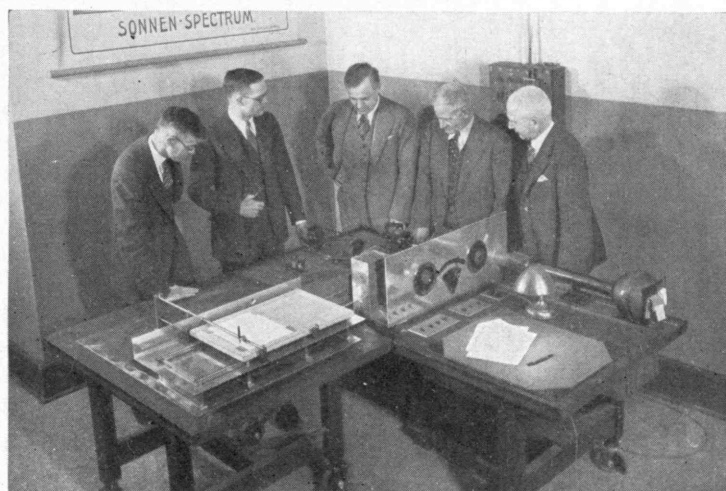
ACTING on a suggestion made by the Corporation Visiting Committee on the Library, of which Dr. Harlow Shapley is chairman, Edward L. Moreland, '07, President of the Alumni Association, in January wrote some 150 Alumni and friends of the Institute to determine whether they would be interested in participating in the formation of a group to be known as the "Friends of the M.I.T. Library." The replies were so satisfactory that the Executive Committee recommended to the Alumni Council at its January meeting that the Association sponsor the formation of the group. The Council accepted this recommendation and authorized President Moreland to appoint a suitable committee to organize the Friends.

Under the plan proposed there will be no dues for membership in the group and there will be no drive for funds, although, of course, cash

contributions will be welcome. The sole qualification for membership will be an interest in the Library. This interest may be expressed by donations of any idle books, by interesting other people who may have special collections or single books they might be glad to give to Technology, by calling attention to special collections which might possibly be made available if proper contacts are made, by making suggestions which might be helpful, and, in short, by doing anything that would be of benefit to the Library. When the group is formed the members will be kept posted as to the progress of the Library so that special attention can be focused on these needs.

The Library is a vitally important factor in the life and success of the Institute, and there is ample evidence that the Institute itself is fully awake to the desirability of increasing its usefulness in every way. This is exemplified by the Executive Committee of the Corporation which, taking advantage of a special gift, is proceeding to make the Library more comfortable and more accessible to students and staff by completely revamping the heating, ventilating, and lighting systems, and by the installation of a special high-speed elevator.

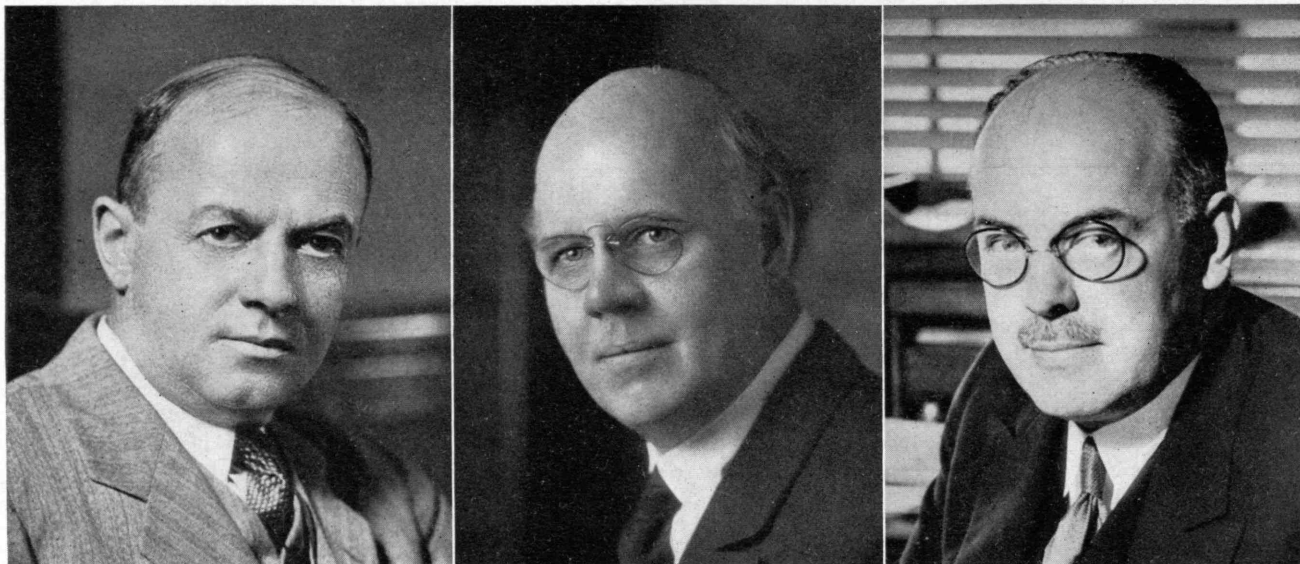
The Review will be glad to receive the names of any readers who wish to become members of the Friends of the M.I.T. Library, and it will be happy to receive and pass



This spring The Technology Press at M.I.T. will publish an important contribution to the science of color measurement entitled "Handbook of Colorimetry." This volume, prepared by the Department of Physics Color Measurements Laboratory, will provide an objective physical method of color specification and will supply for the first time tables and charts to facilitate this specification.

Above is shown the Hardy Color Analyzer in the Color Measurements Laboratory. This instrument, which automatically measures and records the colors of opaque materials, is in constant use by industries and laboratories dealing with color.

Grouped around the Analyzer, from left to right, are Vannevar Bush, '16, Dean of Engineering, Professor Hardy, '18, President Karl T. Compton, Samuel C. Prescott, '94, Dean of Science, and Harry M. Goodwin, '90, Dean of the Graduate School



THE ALUMNI PRESENT —

As nominees to the Technology Corporation, left to right: William S. Newell, '99, XIII, President, Bath Iron Works Corporation, Bath, Maine; Frederick W. Garber, '03, IV, practicing architect, Cincinnati; B. Edwin Hutchinson, '09, III, Vice-President and Chairman, Finance Committee, Chrysler Corporation, Detroit

along to the committee any suggestion for giving this organization an optimum usefulness in developing the facilities of our library.

Alumni Nominees

THIRTY THOUSAND Technology Alumni will receive in the mail this month the annual ballot and warrant of the Alumni Association. They will find on the ballot, which they are urged to fill out and return promptly, the nominations for the officers of the Alumni Association and for representatives on the Institute Corporation, together with nominations for new members of the National Nominating Committee. This important committee now includes Henry A. Fiske, '91, Harry J. Carlson, '92, Frederic E. Everett, '00, John F. Ancona, '03, Francis J. Chesterman, '05, Franklin O. Adams, '07, Albert E. Wiggin, '07, Ray P. Dinsmore, '14, James A. Burbank, '16, and Rolfe A. Folsom, '18.

The slate selected by the National Nominating Committee this year is as follows: *President*, Donald G. Robbins, '07, II (see page 227); *Vice-President*, Harold B. Richmond, '14, VI; *Executive Committee*, Lawrence Allen, '07, I, United Shoe Machinery Corporation, and Arthur L. Townsend, '13, II, Assistant Professor, Mechanical Engineering, M.I.T.; *Representatives at Large*, Leonard C. Wason, '90, VI, Aberthaw Company, Frank A. Robbins, Jr., '02, II, Bethlehem Steel Company, Charles H. Chatfield, '14, II, United Aircraft Corporation, Alfred T. Glassett, '20, I, Barney-Ahlers Construction Corporation, Raymond D. Leonard, '27, I, Pittsburgh Coal Company; *Corporation*, William S. Newell, '99, XIII, Frederick W. Garber, '03, IV, B. Edwin Hutchinson, '09, III (see pictures above).

Since three members of the National Nominating Committee (Henry A. Fiske, '91, Francis J. Chesterman, '05, and Ray P. Dinsmore, '14) retire this year as

representatives, respectively, of Districts 3, 6, and 7, nominations have been made to fill the vacancies they leave. There are three nominees for each of these districts and the alumni body votes to select one of the three to represent each of the districts. These nominees are: *District 3*: Harold G. Manning, '12, X, Patent Lawyer; Charles H. Chatfield, '14, II, United Aircraft Corporation; John E. Kearns, '32, VI, General Electric Company. *District 6*: Proctor L. Dougherty, '97, VI, Eyesight Conservation Council; Ernest G. Schmeisser, '05, VI, Baltimore Oil Engine Company; Donald N. Frazier, '11, II, American Mutual Liability Insurance Company. *District 7*: J. Lloyd Wayne, 3d, '96, VI, Indiana Bell Telephone Company; Edmund G. Farland, '21, VI, United Conveyor Corporation; John E. Longyear, '26, XV, Detroit Edison Company.

Architectural Prizes

STUDENTS in the School of Architecture won 11 prizes in the annual competition of the Boston Society of Architects, the winners of which were announced late in January. The much coveted first prize went to George L. Thompson, a graduate student, whose study of "A Shop for the Display of Small Glassware" was one of the 64 submitted to the jury. Thompson came to the Institute from the University of Minnesota, where he was graduated last year.

Third place in the competition for the first medal awards was won by Robert L. Van Nice of Portland, Ore., who came to M.I.T. for graduate study following his graduation from the University of Oregon last year.

Second medal awards were won by nine students of architecture at M.I.T.: Thomas J. Chang of Canada, graduate of the University of Pennsylvania; Victor C. Gilbertson of Towner, N. D., who was graduated from the University of Minnesota last year; George N. Lykos, Boston; Robert W. Vahlberg, Oklahoma City,

Okla., University of Oklahoma graduate of last year. These men are now carrying on graduate studies. Undergraduates winning these prizes were: John P. Allen, '36, and Donaldson R. McMullin, '36, of Newton; Saverio Santoro, '38, of Watertown; John A. Valtz, '36, of Lynn; Edwin B. Worthen, Jr., '36, of Lexington.

The competition was judged by the Boston Society of Architects' committee on education in conjunction with the teachers of design in the schools of architecture of Technology and Harvard.

Laboratory House

WHILE the School of Architecture was winning the prizes recorded above and its students in city planning were attending lectures last month by Dr. Thomas Adams of London, plans were maturing for the first "laboratory house" to be designed and built under the direction of its students. This Technology House will be erected in Wellesley Hills, a suburb of Boston, next winter. A lot of 13,400 square feet has been purchased by the Institute, and designs for a house suitable for the site and in keeping with the buildings surrounding it will be started soon.

Since it is planned to sell the house for about \$10,000 when it is finished in the spring of 1937, many considerations entered into the choice of location. The lot finally decided upon is in a congenial suburban neighborhood and within easy distance of transportation, shopping center, and schools. The students follow every step in the problem, from helping to select the lot to the sale of the finished house.

The building probably will be a small, modern house of conservative design, containing six or seven rooms and garage. Throughout the problem members of the class will be in competition with one another and the best designs and methods will be selected as the development progresses. It is planned to repeat the problem yearly with each new class.

Appointments

THE promotion of Major James F. C. Hyde, '16, U.S.A., to the rank of associate professor in military science and tactics and several appointments to the staff were announced at a recent meeting of the corporation.

Major Hyde was graduated from Colorado College in 1916, and was trained at the Army Engineer School, Fort Leavenworth, Kansas, and the Air Corps Tactical School. Since then he has done important army construction work on the Mississippi River near Rock Island, Ill. He joined the Institute's staff in 1933.

The list of appointments includes that of Herman J. Shea, '33, as instructor in surveying. Paul Cohen, '35, was appointed instructor in the Department of English and History for the second term. Mr. Cohen was active in undergraduate affairs and was editor of *The Tech* in his senior year.

Dr. Richard W. Blue, and Dr. Scott E. Wood were appointed research associates in chemistry. Dr. Frederick S. Dellenbaugh, Jr., '21, who was a member of the staff several years ago, returns on appointment as a

research associate. He is widely known for his work on vacuum-tube design.

Those who were named research assistants include Robert H. Boden, '34, Mechanical Engineering; William E. Dobbins, '34, Civil and Sanitary Engineering; Junior H. Howard and John Reed Maull, Electrical Engineering; James T. Killian, '35, Textile Laboratory; Basil W. Parker, '33, Biology and Public Health.

Paul F. Bartunek, Millard F. Manning, '34, Jacob Millman, '32, and Henry Rich were appointed assistants in the Department of Physics. Also appointed as assistants were: Henry E. Kiley, '33, Mechanical Engineering; Olaf N. Rove, Geology; John A. Shute, '31, Economics and Social Science; Benjamin T. Woodruff, Chemical Engineering Practice School. William Parrish was appointed teaching assistant in geology.

For the second term of the year A. R. Rogowski, '28, was appointed research associate in aeronautical engineering; George Parmakian, '33, assistant in mechanical engineering; Wallace K. Woods, '35, assistant in chemical engineering, and Charles W. Smith, '35, assistant director of the Boston Station of the School of Chemical Engineering Practice. Mr. Robert N. Sanford was reappointed lecturer in psychology for the second term.



Donald G. Robbins, '07, II, sole nominee for the 1936-1937 presidency of the Alumni Association; Harold B. Richmond, '14, VI, is the nominee for the vacant vice-presidency. The Association president, upon assuming office, becomes a member ex officio of the Corporation. Mr. Robbins is vice-president of the Boston firm, Associated Depositors, Inc., and Mr. Richmond is treasurer of the General Radio Company, Cambridge. Both Messrs. Robbins and Richmond are members of the Institute's Corporation

The Institute announced a research fellowship in meteorology to S. Hildring Olsson; a special research fellowship in physics to Ralph P. Johnson; and a teaching fellowship in physics to Leo Peter Tarasov.

Priestley Lectures

THE Priestley Lectures, established by Pennsylvania State College in honor of Joseph Priestley, distinguished English chemist, are to be given this year by Warren K. Lewis, '05, of the Institute's Department of Chemical Engineering. The lectures, consisting of a series of five papers dealing with the borderline between physical chemistry and some other branch of science, are presented annually under the auspices of Phi Lambda Upsilon, honorary chemical society, and the Department of Chemistry of the College. Dr. Lewis has chosen as his topic for the series which will be delivered the week of March 23 "The Borderline between the Physical Chemistry of Fluids and the Behavior of Suspensions."

This is the second honor which has come to Dr. Lewis during the academic year. He was recently awarded the Perkin Medal by the American Section of the Society of Chemical Industry, in recognition of his contributions to research in industry. The medal is one of the highest honors in the chemistry world.

Reading Room

A LIBRARY of current periodical literature in fields related to mechanical engineering has been established in the Department of Mechanical Engineering to make it convenient for graduate students and staff members to keep informed on current developments.

The list of periodicals received includes the more important American journals in the various branches of mechanical engineering and survey periodicals from England, Germany, France, and Italy.

Mountain Men

STUDENTS from the Rocky Mountain region attending the Institute have organized a "Rocky Mountain Club" to promote comradeship among students and faculty members from that section of the country. The idea was suggested by the success of the district alumni groups throughout the country, and the new club plans to meet with Western alumni during the summer vacation.

At a dinner meeting held recently for the purpose of organization, Dean H. E. Lobdell, '17, who was a guest of the student group, called attention to the fact that Colorado has a larger student representation, per thousand of population, than any state in the union outside of New England, New York, and New Jersey.

Emmett C. Ryder, '38, of Fort Collins, Colo., was chosen chairman of the committee to direct club activities. He will be assisted by Duane O. Wood, '37, and Carl A. Hedberg, '36, of Denver, and Charles T. Ryder, Jr., '39, of Colorado Springs.

There are 36 students from the Rocky Mountain states registered at Technology. Arizona is represented by Gurdon M. Butler of Tucson, Graduate School, and

James S. Bethea, '37, of Prescott. From Colorado came: John P. Cogan of the Graduate School and Charles T. Ryder, Jr., '39, both of Colorado Springs; John F. Baker, '39, Grand Junction; Chauncey F. Bell, Jr., '38, Greeley; Charles A. Blessing, '37, and Donald C. Spencer, '36, Boulder; Richards L. Loesch, '39, Montrose; Bernard C. Riddell, '38, and Emmett C. Ryder, '38, of Fort Collins; Frank E. True, '39, of Littleton. Denver contributed the largest number: Robert M. Blunt, '38, Rutherford Harris, '37, Carl A. Hedberg, '36, Courtland C. C. Hill, '40, Walter D. Hudson, '39, David S. Whitaker, '37, and Duane O. Wood, '37.

From New Mexico, James Seth of Santa Fe is registered in the Graduate School and the undergraduates include: Alfred V. Dasburg, '36, Taos; Virgil G. Hall, '37, Carlsbad; James A. Moore, '37, Albuquerque; Ernest P. Neumann, '38, Crownpoint; Daniel C. Pearson, Jr., '36, Roswell.

Utah is represented by Douglas A. Elkins and Joe W. Kingsbury of Salt Lake City, in the Graduate School, and Stephen L. Macdonald, '39, and Dee M. Van Cott, '36, both of Salt Lake City, are the undergraduates.

Richard B. Nelson of Powell, Wyo. is a student in the Graduate School.

General Lee

A PORTRAIT of General Robert E. Lee, the great Confederate soldier, has just been presented to the Institute by the Boston Chapter of the United Daughters of the Confederacy.

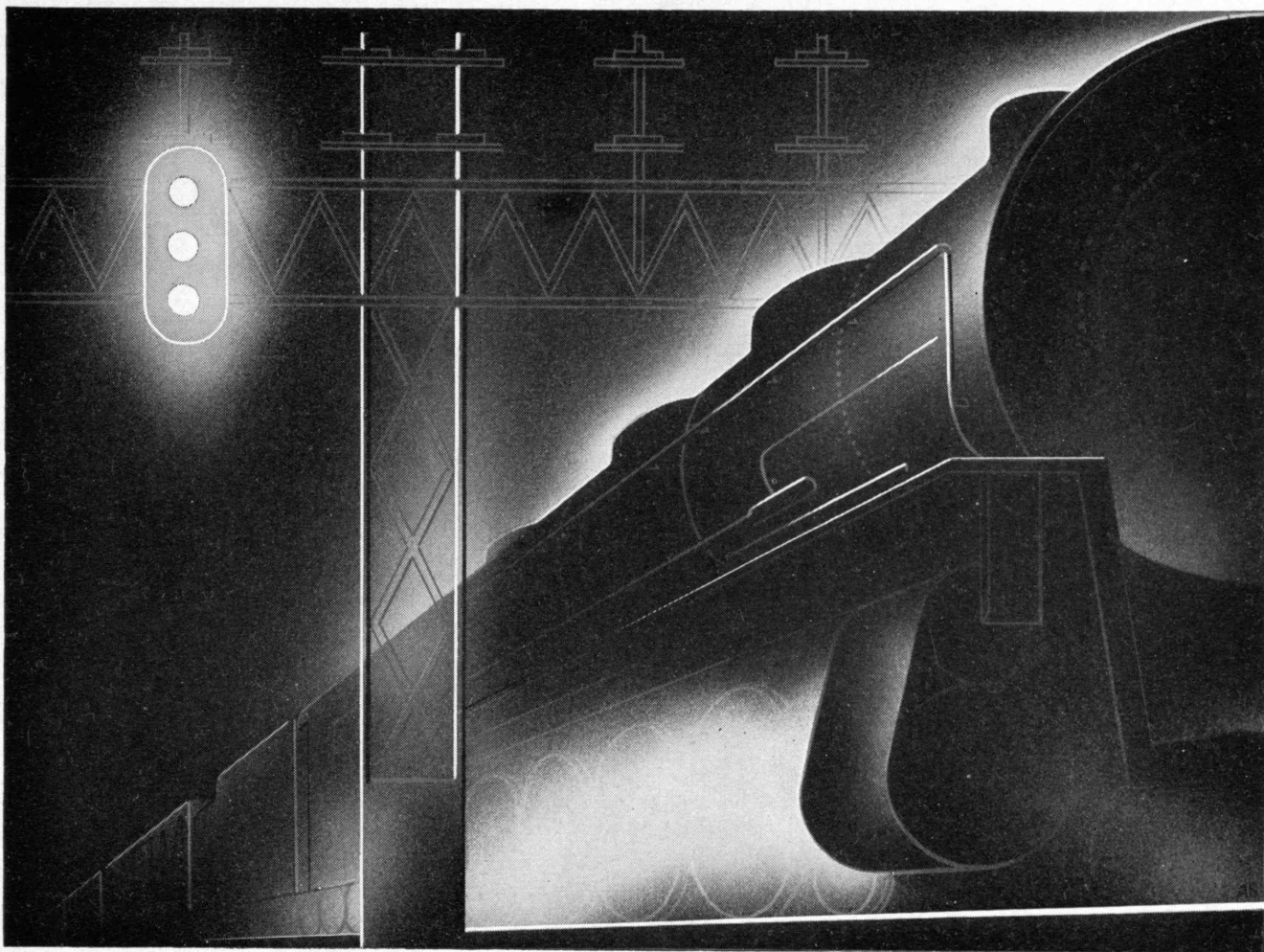
The portrait, which is the work of Miss Selma M. B. Moeller of New York, was hung in the Moore Room of the Institute after its formal unveiling. Until its presentation the portrait was veiled by the blue and white colors of Washington and Lee University.

Colonel Samuel C. Vestal, Head of the Department of Military Science, presided at the ceremony and Mrs. George E. French, chairman of the committee in charge of the portrait, the Reverend Belmont Hill, and Mrs. Albert L. Rider, who is president of the Boston Chapter of the U.D.C., were among the guests present. President Compton accepted the portrait with a brief speech.

Placement Growing

AS a result of the steadily growing demand for Technology graduates in recent months, it has been necessary to increase the staff of the Placement Bureau. Calls for graduates with specialized training have been coming in faster than they could be handled effectively. To alleviate this situation, George A. Chutter, '21, has been appointed Assistant Placement Officer, and it is expected that with his assistance the Placement Bureau will be in a position to be of greater service to the graduating class, the Alumni, and prospective employers.

Mr. Chutter was graduated from the Institute in 1922 with the degree of Master of Science in Electrical Engineering and was a member of the engineering staff of the General Electric Company from June, 1923, to October, 1932. The first five years of this period were spent in Schenectady, where he was attached to the switchgear and industrial (Continued on page 232)



MOLY increases the pay load by decreasing the dead load

FREIGHT haulage is the railroad's "bread and butter." One way to lower operating costs is through lighter, yet stronger, load-carrying rolling stock. It permits larger pay loads per car or more cars per train; less strain (particularly in starting) and less fuel consumption.

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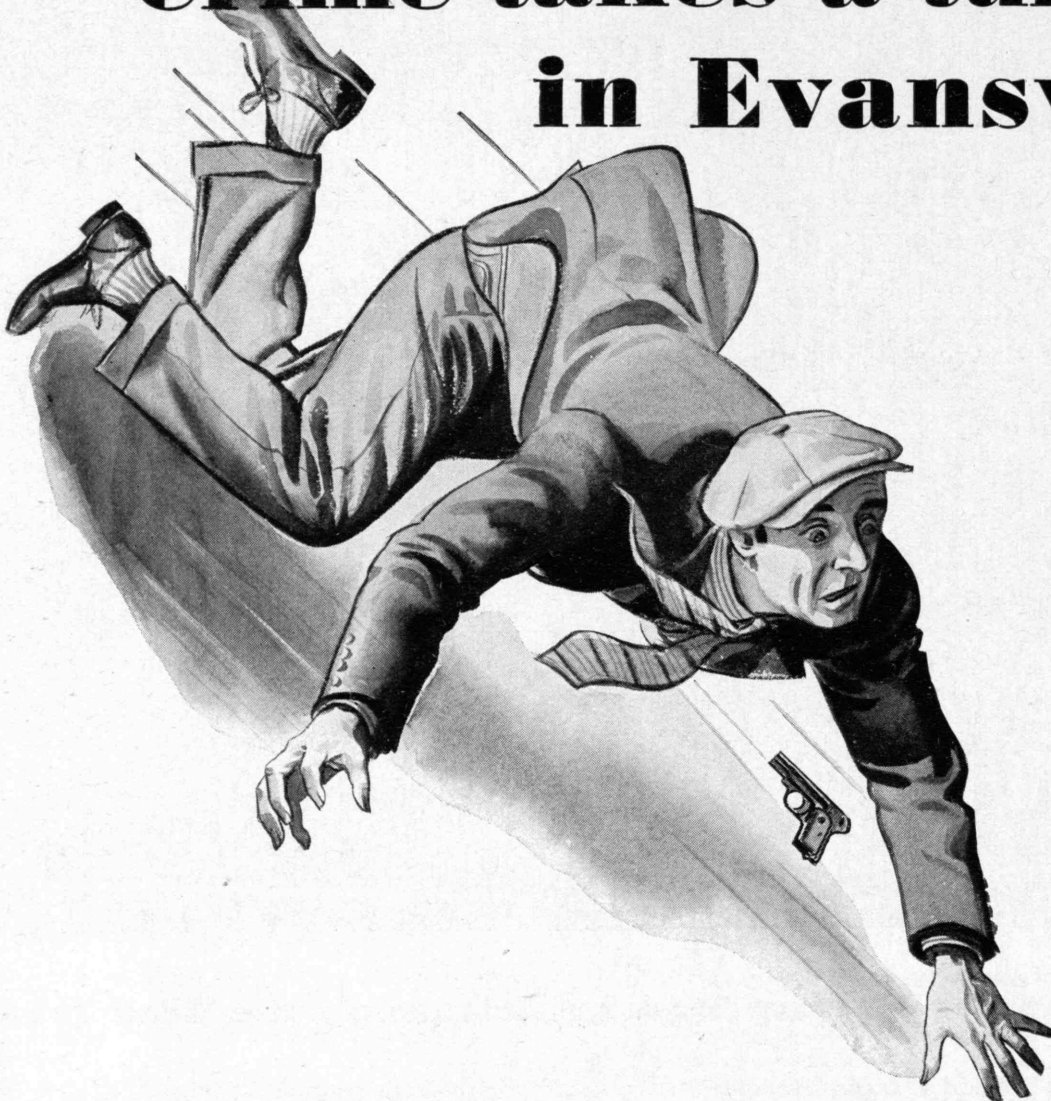
properties for a given purpose. They cost but slightly more at first than plain carbon steels, and cost much less in the long run.

That is not the whole story by any means. Moly steels reduce wear, breakage, and destruction from corrosion. Consequently, maintenance and depreciation costs are reduced. Summed up, Moly steels will make a notable reduction in over-all operating costs, on a train-mile or any other basis.

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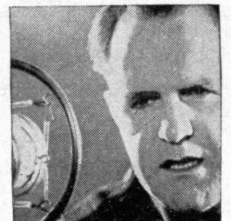
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NORTON ABRASIVES

THE INSTITUTE GAZETTE

(Continued from page 228)

engineering divisions of the company. He was then transferred to their Birmingham, Ala., office where he served as its engineering representative in Alabama and western Florida. Then, following two years' experience in the South, he was transferred to the Milwaukee office, where he specialized on problems in connection with dredging and excavating.

From October, 1932, to October, 1933, he carried on a general consulting engineering business in Milwaukee, when he was called to the Wisconsin Public Service Commission. His work there was in connection with installation of a continuous inventory appraisal of the water, gas, and electric properties in the state. This work was carried on in cooperation with John C. Damon, '05, and Edmund D. Ayres, '23. Mr. Chutter, therefore, brings to his new position a first-hand knowledge of industrial requirements and opportunities for the placement of Institute graduates.

Council Meeting No. 184

TO mark the 60th anniversary of the first meeting of the Alumni Association, 82 members and guests gathered together at the Alumni Council on January 27 to hear Dean Vannevar Bush, '16, deliver a comprehensive and illuminating description of research projects under way in Institute laboratories at the present time, H. B. Richmond, '14, Alumni Day Chairman, describe the important plans for Alumni Day on June 8, and J. R. Killian, Jr., '26, rehearse some of the early history of the Alumni Association and of the Council. The projects described by Dean Bush will be described in separate stories from time to time in *The Review*; Mr. Richmond's stirring talk on the reunion will be reflected in notices mailed to Alumni about this event; Mr. Killian's historical sketch will be published in the April issue of *The Review* which will commemorate the 75th anniversary of the founding of the Institute.

As recorded on page 225, the Council voted to sponsor the group to be known as Friends of the Technology Library. Professor Robert H. Richards, '68, the first president of the Alumni Association, and Professor C. Frank Allen, '72, member of the first executive committee, were given an ovation.

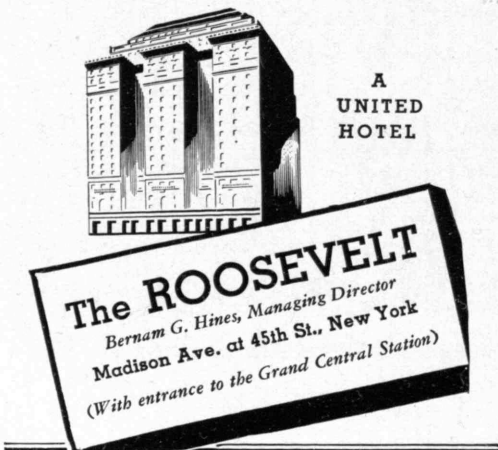
The Committee on Resolutions for the late James W. Rollins, '78, consisting of Charles T. Main, '76, Chairman, A. S. Higgins, '78, and Arthur Winslow, '81, presented an appropriate tribute to Mr. Rollins who died on November 19. On page III of its alumni notes section in January, *The Review* presented a sketch about Mr. Rollins' career.

President Moreland, '07, announced that definite arrangements were completed for an open meeting of the Alumni Council on April 27 with President Conant of Harvard as principal speaker and the presidents of other institutions around Boston as guests. Any Technology Alumnus, regardless of whether he is a member of the Council, will be welcome at this meeting.

(Continued on page 234)



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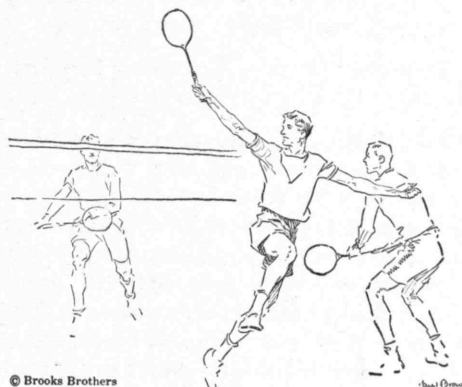
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4: For a popular presentation of Educational Opportunities offered at M. I. T., ask for Bulletin 4.

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THE INSTITUTE GAZETTE

(Continued from page 232)

Civil Engineering at M. I. T.

BELOW is a condensation of a Visiting Committee Report recently presented to the Corporation of the Institute and published here as part of the series now appearing in The Review.

REPORT OF THE VISITING COMMITTEE OF THE DEPARTMENT OF CIVIL AND SANITARY ENGINEERING*

PRECEDING its meeting various members of the staff of the Department were requested to prepare memorandums with special reference to these points: (a) the scope of the present work of each division; (b) its particular problems and the aims toward which its teaching emphasis is being directed; (c) the educational aim that it fulfills in the fundamental preparation for a civil engineer; (d) the success of the teaching in developing clear and logical thinking and common sense; (e) the success attained in teaching students *how to work* and in developing studious mental habits.

These memorandums by Professor C. B. Breed, '97, Head of the Department, and his colleagues are incorporated in the report of the Committee to the Corporation. Certain of Professor Breed's observations are abstracted below: The Department now administers Course I, Civil Engineering, Course XI, Sanitary Engineering, and Course XVII, Building Engineering and Construction.

Speaking very generally, instruction includes: all stationary structures, such as bridges, buildings, railroads, highways, natural and artificial rivers, and conduits; all construction appurtenances, such as foundations, dams, water systems, sewerage systems, mechanical equipment of buildings, and tunnels. It covers the principles of design for these structures, methods of construction, operation, and economics.

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enormous problem. It is, therefore, the aim to have staff members who are essentially good teachers and who are leaders in their particular fields of the profession. A teaching staff in applied science naturally falls into two classes: the pioneers and the institutional teachers. The former are discoverers of new facts and laws; the latter are essentially instructors in their respective branches. The former are usually termed research men; the latter, formal class teachers. It is believed that the former should always be encouraged to do some research work so that they may contribute original thought to the profession's store of knowledge.

Four branches of activity in research have been particularly evident in producing new and beneficial contributions in the past year. Dr. Gilboy's ('25) work in soil mechanics is outstanding and in this field the profession is but beginning on a most important branch of study. Mr. Ruge, '33, has already demonstrated that the rational design of structures that will withstand earthquakes is a possibility. (See The Review for January, 1936, page 147.) Professor Carlson is discovering facts regarding the action of cements and concrete which will result in more durable structures and effect great economies. Professor Reynolds is demonstrating the value of model studies applied to hydraulic problems which will remove much of the guess-work therefrom. His model of the Cape Cod Canal (see The Review for April, 1935, page 266) on which studies are being accomplished in coöperation with the Corps of Engineers, U.S.A., is an example of this contribution to science.

In addition may be mentioned three further items: Professor Voss, '32, has been working for several years on brick and mortar research in an endeavor to find the causes of leaky walls and to determine preventive methods. This study is very complicated, there are many unknown factors involved and it will probably be some time before useful results are obtained. Dr. Wilbur, '26, is developing the simultaneous-equation machine, which will be the first one constructed. This will save much time for the computer and will tend toward more rational design methods in statically indeterminate structures. Professor Breed has developed a method of economic analysis of highway construction, which has

* The Committee which made the above report consisted of: William R. Kales, '92, Chairman, John J. Pelley, A. Farwell Bemis, '93, Charles T. Main, '76, Arthur W. Dean, '92, Herbert T. Gerrish, '08, Harrison P. Eddy, Frank E. Winsor.

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been set forth in the last three annual proceedings of the Highway Research Board of the American Academy of Arts and Sciences.

These seven studies are all in the pioneer group: They are contributions to professional knowledge and their successful solutions have a large economic value.

Instruction during the first two years at the Institute is practically the same for all engineering students, being devoted to developing facility in the fundamental sciences. In the third and fourth years, planned multiple curriculums are provided for the different branches of engineering, of which civil engineering is one. In the third year fundamentals are emphasized, but here the student gets ample practice in analysis of engineering problems as well; in the fourth year he is introduced to the practice of his profession although the fundamentals and analysis are still heavily emphasized.

While he may choose his option in the fourth year, it can hardly be said that he is specializing, for during the entire four years he devotes not over 10% of his time to optional studies. The educational value of options lies in the fact that, since the student is now studying the applications and, to a limited extent, the details of his

profession, it is better that he confine his efforts to one branch of his professional field rather than to attempt to cover all of it. Otherwise, studies involving application in practice become so diffuse or superficial as to be educationally unsound. Our tendency in the classes of the upper years is also to make them less formal and more in the nature of conferences or seminars for small groups.

Instruction in hydraulics could be improved if we had better laboratories in which it could be carried on in coordination with laboratory classes. Demonstration equipment, as suggested in Professor Russell's '00 comments, would be advantageous. (In his memorandum Professor Russell urged that a lecture room large enough for a class of ordinary size be provided with a lecture table suitably equipped for demonstrating on a small scale the many and various phenomena of hydraulic flow. By simple piping, reservoir systems, piezometers, orifices, mouthpieces, and glass channels, the student might observe the occurrence of the phenomenon he is studying and check his deductions.) Laboratory equipment is also required in sanitary engineering to bring that work up to the (*Concluded on page 236*)

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THE INSTITUTE GAZETTE

(Concluded from page 235)

standard of other divisions of the Department. A much needed student's laboratory in soil mechanics is now being developed.

In its summer surveying camp near East Machias, Maine, the Institute has an investment of about \$120,000 which is used only two months of the year. It costs each student about \$200 for one summer's attendance which is required of all Course I, XI, and XVII men.

The camp offers a student not only an opportunity to get a thorough training in surveying methods but also two months of the best sort of active life in the Maine woods under ideal health conditions. If a way can be developed whereby students from other Courses can be attracted to this work, it will yield a distinct service to the Institute and the student.

In the graduate work the expense mitigates against a higher enrollment. Many other institutions have lower tuition fees and, while scholarship assistance is available to a limited extent, it is insufficient to care for more than a few students having the highest standing. There are many others with a satisfactory standing who go elsewhere because of our higher fees and limited scholarship aid.

After reviewing and discussing Professor Breed's paper and those of his colleagues, the Committee's conclusions were in part as follows: "The contact that is

maintained by the Department with industry and engineering practice, seems to be of great benefit in keeping the members of the staff abreast of the times professionally and increasing their prestige with their students.

"The small attendance at the summer camp is very much to be regretted. The Chairman of your Committee visited the camp and was impressed by the excellent facilities that we have for taking care of and giving instruction to more than double the number of students that now go there. . . .

"The number of students with the present enrollment that receive instruction in hydraulics is about 250 and would be correspondingly greater with normal enrollment. In these circumstances Professor Russell's recommendation regarding a hydraulic instruction room is very much to the point. . . .

"The laboratories all serve the double purpose of assisting instruction and carrying on research. In every case, as is shown by the above reports, more and better work could be done with more and better equipment."

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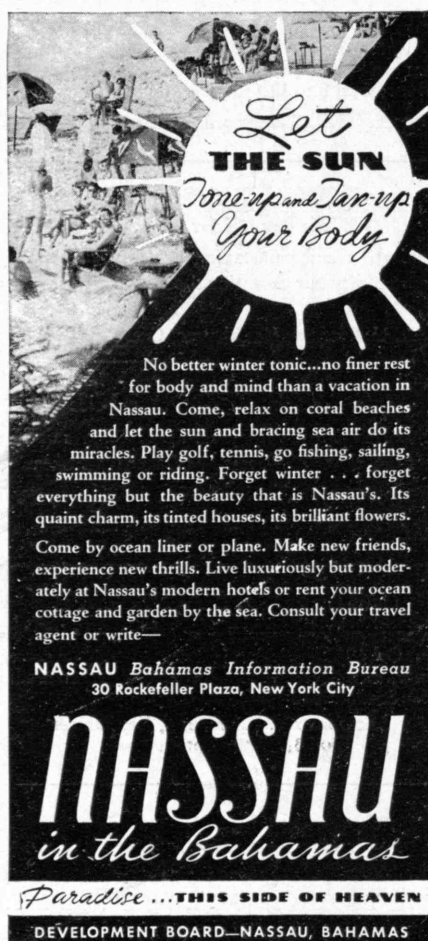
Centrifugal Pumps, Turbines, and Propellers by Wilhelm Spannhake, translated from the German by John B. Drisko. Pp. xiv+328, 182 illustrations. \$5.00.

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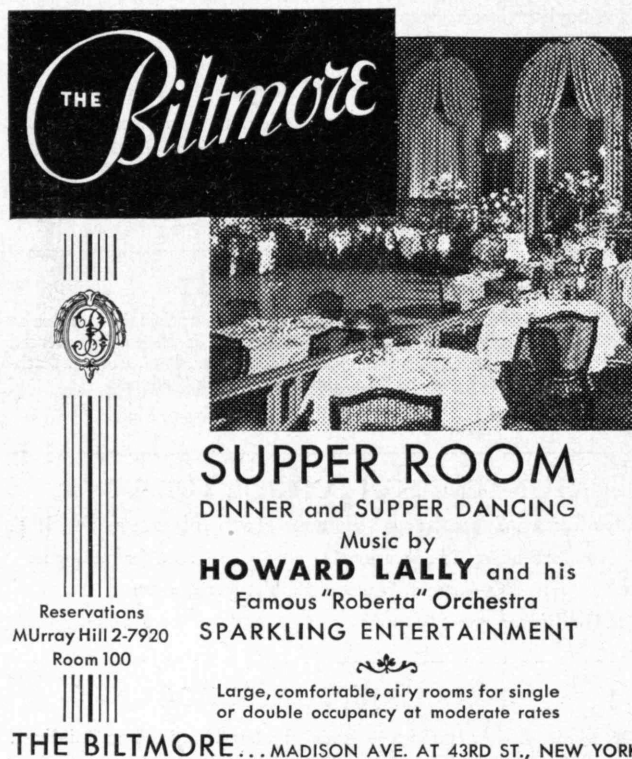
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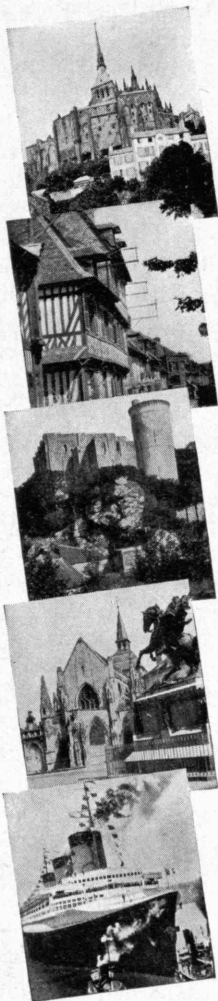
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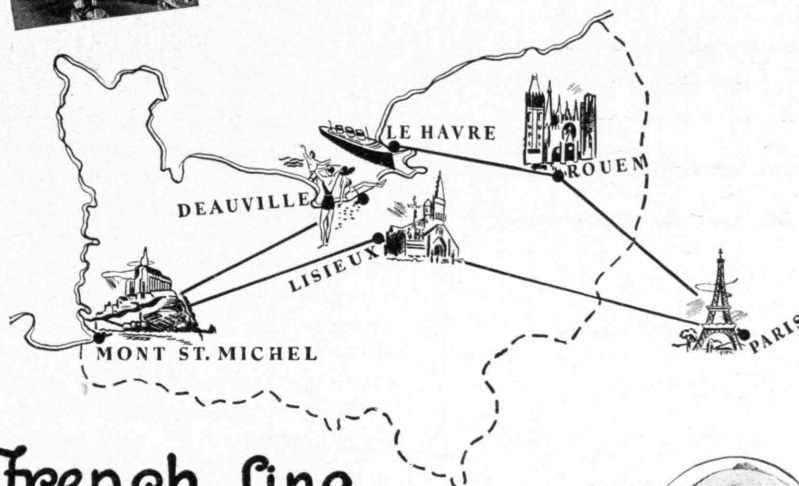


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TREND OF AFFAIRS

(Concluded from page 218)

"Along with these present-day conditions have come a host of problems, not only those referred to a moment ago as related more directly to the new industrial conditions and tracing back, in a sense, to Watt and the steam engine, but a vastly wider array of problems, social, economic, political, and international. I need not take time to specify in detail. They are with us, and they are an outgrowth of these new material conditions of life, in the development of which the engineer has taken so prominent a part.

"But, as engineers, in addition to our status as a group working with other groups for the advance of civilization, we are all members of society at large, and these are problems of which society must find some workable solution. It follows as an inescapable conclusion that the engineer cannot and must not consider himself solely in relation to the work of his own profession, or his duty as in any degree circumscribed by his relations to that work. The engineer is a member of society at large, and as such must take his due share, as best he may, in the study of this wider range of world problems. It is perhaps not going too far to say that the engineer has a peculiar and special obligation to join in this study, since it is, to such an extent, his own work which has brought these problems about.

"The engineer has, here, of course, no complete or sufficient competence. He can only join his efforts with those of others working in diverse fields of activity, in the hope that the collective effort may serve to bring about some approach to wise and effective solutions. But, and this is the heart of the matter, he must not withhold his own contribution, for it seems fair to assume that, from his intimate association with the causes, proximate or remote, of these problems, he should be in a position to contribute factors of vital importance in the search for effective solutions."

MOLECULAR PLANNING

(Concluded from page 220)

self, do something which will greatly affect one's whole later life, so an excited atom can enter into a molecular entanglement which may be permanent.

In this way peculiar chemical compounds have been produced, the very mention of which would have horrified the orthodox chemist of yesterday. It is quite easy to produce temporary molecules of such things as helium argide, argon hydride, and krypton xenide, and to study their reactions. But these molecules break up very quickly. Certain compounds of mercury and tungsten with the rare gases appear to have been made which are quite permanent.

Let us not, therefore, overlook the possibilities of the chemistry of excited atoms in planning our chemistries of the future.

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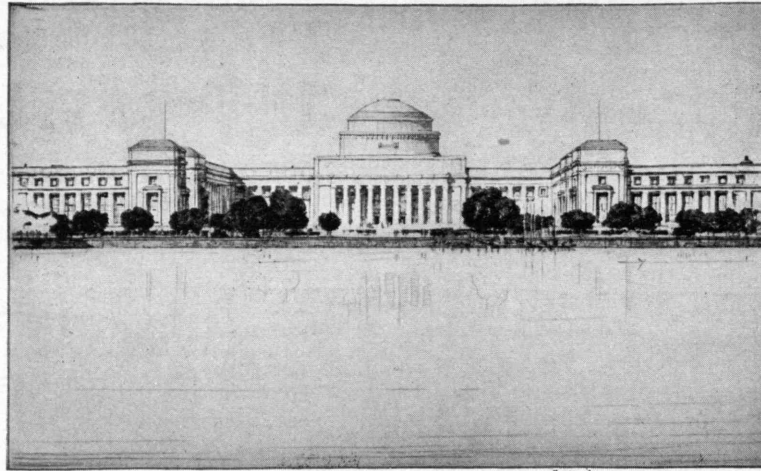
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On the Chemical Front

¶ In a broadcast sponsored by the Northeastern Section of the American Chemical Society, AUGUSTUS H. GILL '84 spoke on "Black Coal-White Gasoline," January 24. Dr. Gill gave a brief outline of the origin of coal and the preparation of gasoline. In addition he gave some surprising facts: "The United States Public Health Service states that on the average bright day the smoke over New York City (where hard coal is burned) cuts out 37% of its sunlight"; "that smoke costs the United States nearly \$2,000,000,000 annually"; "that if the human body retained all the soot and dust breathed, the average city dweller would gain from 25 to 35 pounds a year."

¶ At a meeting of the Society of Chemical Industry, American Section, February 21, and earlier at a meeting of the Northeastern Section of the American Chemical Society, ERNEST R. BRIDGWATER '18 of the E. I. duPont de Nemours and Company spoke on the "Economics of Synthetic Rubber."

¶ From the *Science News Letter* of January 18, we learn: "A new field of chemistry is opened by the researches of Dr. Carothers and his collaborators, JULIAN W. HILL ['28] and E. W. Spanagel, who have developed a theory and method of control of synthesis of what chemists call 'large ring' compounds of high molecular weight. . . . Based on the 1926 discovery of the Swiss chemist, Ruzicka, that the essential principles of musk and civet are chemicals of large-ring type, the duPont research has aimed to make this discovery practically available. . . . The new chemical research has the possibility of bringing to the boudoir new synthetic odors that nature has not imagined."

¶ Also of interest to physicists but listed here because sponsored by the Northeastern Section of the American Chemical Society was a broadcast by Professor GEORGE R. HARRISON, Staff, January 17. Professor Harrison said: "The kind of superchemistry we shall now discuss . . . might well be called molecular planning, for it is based on finding out what causes atoms to join together in molecules, then modifying the external struc-

tures of the atoms when necessary, to make them join together into molecules they had not thought of forming, and finally persuading them to build up molecules of types which we do not at present possess, but would find useful. . . . The atom which has borrowed electrons and that which has loaned electrons find themselves linked together by bonds quite as strong as the chains linking an Ethiopian debtor to his creditor."

Prizes

¶ The first American to receive the Mascart Medal, ARTHUR E. KENNELLY, Professor Emeritus of Electrical Engineering, was thus honored for his work as one of the discoverers of the Kennelly-Heaviside layer in the atmosphere which reflects radio waves. The Mascart Medal was established in 1923 by the Société Française des Electriciens de Paris in memory of the French scientist, Mascart, to be given "to a scholar or an engineer, French or foreign, who has distinguished himself by his contributions to pure or applied science."

¶ An annual prize of \$250 called the Sylvanus Albert Reed Award is given for "a notable contribution to the aeronautical sciences resulting from experimental or theoretical investigations, the beneficial influence of which on the development of practical aeronautics is apparent." The award for 1935 was presented to FRANK W. CALDWELL '12 on January 30. LESTER D. GARDNER '98, Secretary of the Institute of the Aeronautical Sciences, stated that the selection was made by the 52 fellows of the organization, among whom were Orville Wright and Charles A. Lindbergh.

¶ PHILIP H. JOHNSON, JR., '35, the outstanding student among more than 2,300 from New England who attended the summer Citizen's Military Training Camps in the 1st Corps Area, has received the 1935 Pershing Gold Medal for distinguished attainment in military education.

Aeronautics

¶ "One of the most successful aeronautical engineers in the United States today is DONALD WILLS DOUG-

LAS ['14]." Thus begins an article in the *Chicago Tribune* of January 26. An interesting half page of pictures and text traces Mr. Douglas' history through Trinity Chapel School in New York, United States Naval Academy, M.I.T., and the manufacture of his first barrel-fuselaged biplane, a commercial ship, to the new sleeper transports. ARTHUR E. RAYMOND '21 is now chief engineer of the Douglas plant where he worked first in the metal fittings department and later was placed in charge of stress analysis.

¶ The coördination of all passenger airlines into one country-wide system is a step forward. This movement has been accomplished by the formation of the Air Transport Association of America. The president of this organization is Colonel EDGAR S. GORRELL '17 about whom we quote the following from the *New York Times*, January 15: "Colonel Gorrell, who is 46 years old, has been a pilot for 22 years. He began his military service after being graduated from West Point as an honor student, in 1916, as adjutant of the First Aerial Squadron, under General John J. Pershing, and chased Villa in Mexico. During the World War he served as chief engine officer for the Air Service, then became chief of staff. He represented the United States in various capacities during the peace conference. Following his return to the United States after the War, Colonel Gorrell joined the staff of the Stutz Motor Car Company and was president for six years prior to his resignation on August 8."

¶ Peiping International College, Peiping, China, wishes to broaden its scope and to this end is adding a department of aeronautics. For this purpose they have sent for FRANK L. WATTENDORF '28, one of the consulting engineers in the building of the *Akron* and the *Macon*.

Staff Lectures

So many lectures have been made by members of the Technology Faculty that we found a listing of some of them interesting:

¶ At the Jaynes League, West Newton, January 12, IRVING COWDREY '05, Mechanical Engineering, on the importance of trees.

¶ At the Waban Woman's Club, January 6, ERWIN H. SCHELL '12, Business and Engineering Administration, on economic conditions during and since the War.

¶ At the Taunton Woman's Club, January 6, F. ALEXANDER MAGOUN '18, General Studies, on "The Understanding Heart"; at the Manuscript Club of Boston, January 21, on "Personality in Writing."

¶ At the Society of Arts lecture, M.I.T., January 19, FREDERICK H. NORTON '18, Mining and Metallurgy, on ceramics.

¶ At the Kiwanis Club, New Bedford, January 14, HENRY G. HOUGHTON '27, Electrical Engineering, on fog-dissipation work at Round Hill.

¶ At the Lions Club of Melrose, January 14, KENNETH GERMEHAUSEN '31, Electrical Engineering, demonstration of use of stroboscope on high-speed moving pictures.

¶ At the Sharon Fortnightly, January 21, LINCOLN FAIRLEY, Economics and Social Science, on the "Teachers' Oath Bill."

¶ At the Tufts College Women's Club, January 23, JAMES F. NORRIS, Chemistry, on "Walking Through the Salzkammergut."

¶ At the Hingham Woman's Club, January 21, ROBERT E. ROGERS, English, on "What Interests Me in the Season's Books."

¶ At the Middlesex Women's Club, January 20, FREDERICK K. MORRIS, Geology, on "Desert Magic."

¶ At the Fourth Division Association of New England reunion, January 18, SAMUEL C. VESTAL, Military Science, on the "Real Causes of the World War."

¶ At the North Shore Country Day School, on December 28, KARL T. COMPTON, President; at the Professional Women's Club, Boston, January 21, on education from a scientific standpoint.

Tech in China

¶ Professor DUGALD C. JACKSON, retired Head of the Department of Electrical Engineering, who is now traveling and lecturing in the Far East, recently sent us a report of his travels from Shanghai. At a dinner given in his honor by Mayor and Madame Wu Te-chen, parents of Ieu Liang Wu '36, there were present: Dr. and Mrs. Hawks Pott, Professor and Mrs. J. A. Elly, Mr. and Mrs. W. S. Heald, Mr. and Mrs. W. A. Adams, Mr. and Mrs. George Fitch, Dr. Lu U-san, Mr. and Mrs. Z. L. Sung, Mr. and Mrs. Chang Wei-kung, Mr. S. M. Li, Mr. Li Ming, father of Teh-

Ching Li '37, Mr. and Mrs. O. K. Yui, Mr. and Mrs. P. W. Kuo, Mr. Bang How, Mr. Paul Hsu, Mr. and Mrs. T. Z. Wu, and Mr. Ernest S. H. Tong.

Professor Jackson reported also that Mayor Z. Y. CHOW '15 of Hangchow is doing great work for that important city of some half-million inhabitants in the way of sanitary and social improvement.

Emendemus?

¶ We do not ask to be excused for the inexcusable, but we do seek to alter the statement that we made last month in regard to the retirement of the president of the Rockefeller Foundation. The Max Mason involved is he who was a member of the M.I.T. Staff in the Department of Mathematics, 1903 to 1904, and not the graduate of the Class of 1912. To both of these gentlemen, we apologize.

DEATHS

* See class notes for account.

¶ ELGOOD C. LUFKIN '85, October 9.
¶ RAYMOND P. VINTON '88, January 27.

¶ BENJAMIN C. DONHAM '95, January 14.*

¶ MARGARET HARDON WRIGHT (Mrs. James H.) '95, January 12. We quote from the *Boston Transcript*: "Graduated from Wellesley College in 1892, she took two years at M.I.T. in the architectural course, followed by five years in Europe studying history of art. . . . Mrs. Wright . . . was known for her pencil sketches as well as her larger etchings which appeared in several exhibitions." James Hayden Wright '95 survives.

¶ HOLLIS GODFREY '98, January 17. Consulting engineer, author, and educator, Dr. Godfrey attended Tufts, Harvard, M.I.T., Miami University, Queen's University, and Bishop's College. He held doctorates in law and science. This scientific background coupled with an interest in writing equipped him as a contributor to the *Boston Evening Transcript* in the early 1900's and as author of "The Man Who Ended War." During the War he worked with Elihu Root, General Leonard Wood, and Howard Coffin in creating the Council of National Defence. From 1916-1918 he served as Federal commissioner for the advisory committee of the Council and was in charge of its section of engineering and education.

From 1906 to 1910 he was head of

the department of science in the school of Practical Arts in Boston; from 1910 to 1917 he was consulting engineer to the Iowa Survey during research into health conditions of Philadelphia and Atlantic City. In 1913 Dr. Godfrey was president of the Drexel Institute of Art, Science, and Industry in Philadelphia. Dr. Godfrey was past vice-president of the M.I.T. Alumni Association.

¶ JAMES A. STETSON '99, January 5. We quote the *New Bedford Standard-Times*: "Mr. Stetson, prominent citizen of this community and executive of the utility company, succumbed to brain concussion and other injuries suffered in an automobile crash. . . . Mr. Stetson was president of the Southeastern Massachusetts Chapter of the Massachusetts Credit Union, treasurer of the New Bedford Gas and Edison Light Company Credit Union. . . ."

"Engineering work for the Metropolitan Water Board of Greater Boston occupied Mr. Stetson in his first year out of college. Then, after extensive travel abroad, he became associated with the New Bedford Gas and Edison Light Company. He was its superintendent of building maintenance at the time of his death. . . . Mr. Stetson supervised construction and installation work for light and power companies in Dayton, Ohio, and Portland, Ore., and for a tramway company in Nova Scotia. . . . He was a former president of the Leighton Club, former president of the Technology Club of New Bedford, a charter member of the Brooks Club, a 32d degree Mason and a member of Aleppo Shrine. . . ."

¶ RICHARD B. DERBY '01, January 21.*

¶ HAROLD BLANCHARD '02, January 14.*

¶ SHIRLEY A. MACE '09, December 22.

¶ PETER L. DILLON '10, date not known.

¶ WLADIMIR MOSTOWITCH '11, August 4. Professor of metallurgy in leading Russian institutions, he was visiting Moscow to carry on some research and while there decided to go to the hospital for an operation to remedy a long-standing complaint. It is understood that he died during the operation.

¶ JAMES E. RUSH '12, December.

¶ FRANKLIN HUTCHINSON '13, January 7.

¶ HARRY E. HITCHCOCK '21, January 6.

¶ JOHN P. THOMPSON '30, April 22.

¶ PAUL C. COOPER '35, January 26.

NEWS FROM THE CLUBS AND CLASSES

CLUB NOTES

Berkshire Technology Club

It was a stormy evening for our meeting of December 3, such as only the Berkshires can produce and, consequently, there was a small attendance of between 20 and 25. The speaker, Charles E. Smith '00, past President of the Alumni Association and Vice-President of the New Haven Railroad, did a splendid job. We kept him busy answering questions until fairly late in the evening, and we recommend him highly to alumni groups desiring a speaker who can deal equally well with alumni affairs and with industrial affairs. — JOSEPH M. NAUGHTON '24, Secretary, Pittsfield Third National Bank and Trust Company, Pittsfield, Mass.

Technology Club of Bridgeport

The first informal dinner meeting of the year was held at the University Club on the evening of January 10 with an attendance of over 40 Alumni from the Fairfield County district. As the opening feature of the evening, Mr. Dave Hays, commercial engineer of the Bridgeport works of the General Electric Company, gave a short but very informative talk on industrial designers pertaining to the styling of new electric appliances.

The presence of our feature speaker of the evening, Professor George Owen '94 of the Naval Architecture Department, brought back the memories of many happy days spent at Technology. His opening remarks were made on the recent developments along the Charles. It was with great interest that the plans of the new Technology Yacht Club were heard for the first time by those present. His personal experiences in sailing the Frostbite yacht in all kinds of weather showed the great future in store for this new kind of sport which will be available to all students at Tech. Plans have already been started for the construction of the Frostbite boats. By means of illustrated slides, Professor Owen showed the evolution of sailing yachts from the beginning down to the present day.

Professor Owen reported that Professor Locke '96, Alumni Secretary, was much pleased with the progress of our reorganized Club and knew that we had a great future in store.

The business meeting was opened with the reading of the Secretary's and Treasurer's reports, which were approved. The constitution committee — Charles Smith '27, Harry Stiles '25, and John Kearns '32 — presented a constitution for the Club, which was tabled until the next meeting.

It was decided that the next meeting of the Club should be held on February 14 with Colonel Small as feature speaker.

Robert H. Smyth '28 was appointed chairman of the committee for the annual outing to be held in conjunction with the Technology Clubs of New Haven and Hartford, the last of June.

The following men were present: Richard Berger '16, Charles Bossert '27, Frank Brazel '34, John R. Clark '29, Bailey Curran '29, Ernest Greenwood '34, John Howell '33, Charles Jones '12, John Kearns '32, Edward Mead '18, Charles Merritt '26, Alexander Nikolsky '29, Albert Robinson '02, Charles Smith '27, Joseph Stagg '17, Harry Stiles '25, Floyd Taylor '03, Max Waterman '13, Edward Wemple '34, John Wright '26, Herbert Elton '08, James Humphreys '95, Robert Smyth '28, Hamilton Merrill '12, Nicholas Sinitzin '26, Frederic Earle '06, C. O. Svensson '31, David McGrath '26, George Cudhea '30, Albert Green '24, Melvin Sousa '34, Philip Lamoureux '25, and Herbert Elton '08. — JOHN E. KEARNS '32, Secretary, 161 Bronx Avenue, Bridgeport, Conn.

Technology Club of Schenectady

The Club met at luncheon at the Y.M.C.A. on Tuesday, January 7, in honor of Dean H. E. Lobdell '17. The meeting was called to order at 12:30 P.M. by President Burr S. Weaver '25 with 23 members present. After luncheon, the President called on the Secretary-Treasurer to read the minutes of the previous meeting (a luncheon meeting, September 19) and on motion duly made and seconded, the minutes were approved as read. The President then introduced Dean Lobdell, who gave us a short and very interesting talk on the various undergraduate admission plans at Technology and a description of the way the freshmen competitive scholarships are awarded. The meeting adjourned at 1:30 P.M. — GILBERT P. TARLETON '25, Secretary, General Electric Company, Patent Department, 1 River Road, Schenectady, N. Y.

Southwestern Association of M.I.T.

The Association held a luncheon meeting at the Hotel Kansas Citian on December 28. The meeting was in the nature of a get-together to get acquainted with some of the students who were home for the holidays. Harry Rapelye '08 acted as toastmaster. William G. Chester '38, George W. Krebs '39, and Louis L. Touton '37 were the visiting students. After dinner a lot of questions were asked them about the Institute and about other institutions such as Jakey Wirths, the Old Howard, and Durgin Parks. To the gratification of all present, the latter were reported still flourishing. Plans were made for instituting regular meetings on the

last Saturday of every month. A room will be reserved at the Hotel Kansas Citian; Alumni can come in any time they want and order any food or refreshments they may wish *à la carte*. Tables will be provided for card playing, so anyone eager for a game of contract or penny ante may have a try at it. It is hoped that the informality and lack of a definite hour will attract many who would not otherwise come, and a real opportunity will be afforded for all the Alumni to get well acquainted.

Those present at the luncheon were C. E. Brown '20, M. C. Culbreath '30, A. T. Cushing '11, F. H. Dierks '12, B. J. Ennis '33, J. W. Gustaveson '18, H. L. Havens '09, J. C. Irwin, Jr., '18, J. P. Keegan '23, A. C. Kirkwood '24, F. H. Littrell '27, W. L. McPherrin '14, D. MacAskill '18, H. A. Rapelye '08, W. S. Reeder '30, W. B. Schneider '32, and R. J. Sholtz '22. — EVERETT P. WEATHERLY, Jr., '29, Secretary, 5911 Walnut Street, Kansas City, Mo.

M.I.T. Club of Northern California

It is my unpleasant duty to report the death of Jonathan E. Woodbridge '93 on December 23. Biographical material about Mr. Woodbridge was published in *The Review* for February, 1936, on page III of the supplement. Mr. Woodbridge was always an active and interested member of the Club and served as president in 1931 to 1932. He will be missed by his friends in Northern California. — D. D. DONALD '25, Secretary, 140 New Montgomery Street, San Francisco, Calif.

M.I.T. Club of Northern New Jersey

Despite a cold wave which followed the wake of stormy weather, 165 members of the Club turned out to extend an enthusiastic welcome to Dr. Vannevar Bush '16, at a smoker held on January 24 at the Newark Athletic Club. The occasion was a "father and son" affair to which had been invited representative students from various New Jersey high schools and interested faculty members.

Dr. Bush gave an illustrated talk on the widely diversified activities of the Institute, which served splendidly the double purpose of familiarizing the Alumni with the extensive progress which has been made in such a large number of fields and to encourage the student guests to seek further training in science and engineering, at the same time presenting for their consideration the opportunities which Technology offers to the high type of student. Three reels of motion pictures of the Institute were shown in addition to numerous lantern slides. The climax of the evening was

the showing of the Edgerton high-speed movie which aroused a great deal of favorable comment and not a little local publicity. Since the autogiro has been extensively used in flying low over New Jersey swamp land to conquer the mosquito, it was of local interest that the famed Jersey mosquito was seen to be nature's own autogiro in the flying motions it employs! Extensive projection equipment was supplied through the courtesy of A. W. Lunn '09 of the General Electric Company and J. P. Maxfield '10 of Electrical Research Products, Inc., and the big job of setting up the equipment and running the show was ably handled by Mr. Earle of the General Electric.

A. T. Glassett '20, President of the Technology Club of New York, presented to E. J. Thimme '23, captain of our Club's bridge team, a trophy jointly offered by the two clubs and for which our Club recently won the first leg, with the New York Club playing host for the occasion. Mr. Glassett accepted the Club's invitation to another match to be held in Newark in the near future.

Art Lunn and J. H. Teeter '22 supplied the music and song leading and the evening was concluded with a buffet supper and plenty of opportunity for everyone to fraternize. Prior to the smoker, the club officers met at a dinner with the advisory committee and Messrs. Bush and Glassett were guests. Due to the favorable response of the members, it was agreed that the Club continue to adhere to its basic principle of not requiring dues. Consideration was suggested for cooperating with the New York Club in their employment service. It was announced that informal monthly luncheons would continue to be held from 12 noon to 2 p.m. on the second Thursday of each month at the Newark Athletic Club and, as heretofore, Alumni are free to drop in or leave at any time within the hours given. Plans were discussed for the spring banquet. The advisory committee consists of: A. R. Cullimore '07, President, Newark College of Engineering; G. G. Holbrook '10, General Superintendent, Federal Shipbuilding and Drydock Company; F. B. Jewett '03, President, Bell Telephone Laboratories, Inc.; A. W. Lunn '09, Manager, General Electric Company; W. J. Orchard '11, President, Wallace and Tiernan Products Company, Inc.; W. H. Price, Jr., '14, Vice-President, Carrier Engineering Corporation; R. E. Zimmerman '11, Vice-President, United States Steel Corporation. The officers of the Club are: J. F. Maguire '17, President; E. W. Vilett '22 and W. J. Lutz '23, Vice-Presidents; W. I. McNeill '17, Secretary; W. J. Grady '22, Treasurer; C. A. Clarke '21 and M. M. Manshel '22, Executive Committee. — WINFIELD I. MCNEILL '17, *Secretary*, 105 Hudson Street, Jersey City, N. J. CAROLE A. CLARKE '21, *Publicity Committee*, 10 University Avenue, Chatham, N. J.

Technology Club of Panama

Dry-season winds are blowing, and for the next three or four months we may expect little or no rain. Although it did

rain on January 13 and 14 at Balboa Heights and for a while on the morning of the 19th at Gatun, it is a bit unusual to have rains during the dry season. These dry-season rains are called local rains, passing showers that cover only a very small area compared with the rain storms of the rainy season. Golfers are out in force at all the golf clubs. The interclub championship matches are over. Four 20-man teams, each team representing one of the four local golf clubs of the Isthmus (Panama, Fort Amador, Pedro Miguel, and Gatun Golf Clubs), with substitutes — over 80 golfers — met at the different clubs for the annual tournament. The last match was played at Gatun, Sunday, January 19. It was a close match between Panama and Fort Amador, Gatun and Pedro Miguel having both lost ground during the third match at Panama. Fort Amador finally won out. The points made are as follows: Fort Amador, 4,456; Panama, 4,403; Gatun 4,278; Pedro Miguel, 4,143. Medal-play rules are used with some local changes for the individual course, waiving penalties on striking flag and ball on green. The scoring is done by the 6-4-2-0 system. Later on in the dry season many local golfers do not play because the ground becomes very hard, dry, and all cracked up, which is not conducive to good golf.

Major W. E. R. Covell '23 and Mrs. Covell sailed from Balboa for the West Coast, Friday, January 17, aboard the S. S. *President Polk*. They expect to spend one week in California, a week in Hawaii, and three weeks in Japan and China. From there they will make various stops around the world, returning to New York on May 6. The following is clipped from a local paper, dated January 17: "For the past two-and-one-half years Major Covell has been assistant engineer of maintenance of the Panama Canal. During his stay on the Isthmus he has proven himself to be an officer of the highest efficiency and capability and he leaves behind him an enviable record difficult to equal.

"Coming from Fort Belvoir, Va., where he was on duty as executive officer of the engineer school at that post, Major Covell arrived here in May of 1933 to assume his important position on the staff of the Governor of the Panama Canal. Graduated from the United States Military Academy in 1911 an honor member of his class, Major Covell was commissioned a second lieutenant in the Corps of Engineers and has served continuously with that branch. During the World War he ranked as a lieutenant colonel. In addition to his training at the United States Military Academy, Major Covell studied at the M.I.T. He is also a graduate of the Army Command and General Staff School of the Army Engineers School at Fort Belvoir.

"Progressive in his ideas and in his work, Major Covell has been instrumental in getting 'new blood' on the Panama Canal. Through his efforts, young engineers have been brought here from the best engineering schools in the States to work for the Panama Canal. As

assistant engineer of the maintenance of the Panama Canal, Major Covell has had charge of the various engineering projects on the Zone. Well-liked by civilians and Army personnel alike, his departure leaves a vacancy which will be difficult to fill."

Gerard Swope '95 passed through the Panama Canal on January 3. He was accorded the reception usually given distinguished guests. Major Covell was his guide, and better guide cannot be found. Here's the reporter's story: "I've forgotten the problems of the world," said Gerard Swope, President of the General Electric Company, when asked if he had anything to say in regard to economic conditions in the United States. "I am on a vacation and I refuse even to think about serious things, much less talk about them."

"The utilities magnate, accompanied by his wife and daughter, Miss Henrietta Swope, was a passenger aboard the *California*, which docked at Balboa yesterday afternoon. Met by Major General Lytle Brown, commandant of the Panama Canal Department, Major William E. R. Covell . . . and F. F. Ramsey, Mr. Swope expressed himself as anxious to take advantage of the few hours the ship would be in dock by sight-seeing.

"Both Mrs. Swope and I have been here before — twice, in fact — but this is our daughter's first trip here and we want her to see something of the Canal and of Panama," he said. Mr. Swope refused to divulge his plans for the future, saying: "All I know now is that I am on my way to San Francisco." Friendly, courteous, and smiling, the energetic magnate chatted informally for a few moments with the officials who were ushered into his stateroom and left with his family for a tour of the Isthmus, accompanied by Major Covell, shortly after the boat docked."

The following notes were taken from a local paper, December 25: "Lieutenant and Mrs. Dale Quarton ['26] of Balboa are receiving congratulations upon the birth of a daughter, Saturday, December 21, at the Gorgas Hospital. . . . Lieutenant and Mrs. Rush B. Lincoln ['35] entertained with a buffet supper party given Monday evening at their home in Corozal, honoring Mrs. Lincoln's parents, Mr. and Mrs. M. M. Hubbert of New York, who are visiting them. . . . Six members of the Atlantic Boy Scout organization received Eagle awards this afternoon during the annual Christmas Scout Court of Honor held in the Cristobal Clubhouse in conjunction with the Community Day affair. . . . Colonel S. C. Godfrey ['07], President of the Canal Zone Boy Scout Council, awarded the Eagle badges." January 3: "Major and Mrs. William W. Southard entertained with a dinner party of 18 covers given Wednesday evening at their home in Corozal, honoring Colonel Stuart C. Godfrey ['07] on the occasion of his birthday anniversary. . . . Colonel and Mrs. Cecil G. Young ['23] of Corozal entertained 32 guests at cocktails at their home followed by a supper party given Tuesday evening at the Officers Club on

the post, honoring their house guest, Mrs. Shawn Nevins of Washington, D. C. Colonel and Mrs. Young gave a dinner party of 10 covers recently at the Union Club honoring Mrs. Nevins." — MEADE BOLTON '16, *President*, Box 23, Balboa Heights, Canal Zone.

Technology Club of New York

Professor Erwin H. Schell '12, Head of Course XV, addressed an enthusiastic, capacity audience of 250 members and guests at the Club on December 17. His topic was "Current Economic Trends" and he delivered the talk in the colorful, zestful manner so well known to his students at Technology.

"The opportunities in the next two or three years will be the best in the last 15 for young men to strike out for new achievements," he declared. He likened the present economic period to the world's "springtime." "We can say we are in the month of April," he said. "There is still a little rain ahead, but the summer time of the economic cycle follows closely." Professor Schell declared that the United States was fortunate that the World War did not strip the country of a generation of young men as was the case in most European countries. Because of this, he explained, there are now many older men in industry to furnish the wisdom and judgement for young men who are pushing ahead. These oldsters are now taking a back seat and leaving the more active work in management to the younger men.

Professor Schell reminded his listeners that the business of the country was changing from a "founders" type of industry, where the founder of the company built the business up by his personal efforts, to a "successor" type of industry where it is the duty of the management to perpetuate an already established business. Because of this fact, he said, many concerns are faced with the problem of selecting and training young men to succeed older men in high executive positions who are now facing retirement. — An interesting question period followed the talk. Later the meeting adjourned to the club rooms for refreshments.

Members of Course XVI of the Class of 1934 held a get-together meeting at the Club on December 7. Those present were: Louis Frank, William Milliken, Robert Ebenbach, Gordon McKay, Ralph Guerke, Ernest Greenwood, Melvin Sousa, Joseph Drankowski, Leon Wallerstein, James Kendrick, Joseph Bicknell, Gordon Glover, and Richard Babcock, all of the Class of 1934.

Everyone present told of his experiences since graduation. Holland Staniek could not attend as he had been married the day previously. Godfrey Borger, another member of the original group, is working on Wake Island in the Pacific. Francis S. Doyle is on the Coast with the Boeing Company. — Members attending the meeting came from Philadelphia, Bridgeport, Hartford, Boston, and New York City. Frank, Bicknell, and Babcock flew down from Boston to attend the affair.

On January 16 the American Society of Civil Engineers held a chapter luncheon at the Club. Among those present were: Harry Manley '02, W. S. LaLonde, Jr., '23, George T. Gilman '23, Dean Peabody '10, Luis Pachom-Rojas '31, Charles L. Coburn '17, James Eder '34. — ASHER L. WEIL '01, *Secretary*, 22 East 38th Street, New York, N. Y. CONSTANTINE S. DADAKIS '34, *Publicity Committee*, 644 Riverside Drive, New York, N. Y.

Technology Club of Virginia

The Club is undergoing a reorganization and hopes to include some 200 Alumni throughout the State meeting at least twice a year. Local clubs that will perhaps meet monthly will be set up in several sections, such as Norfolk, Newport News, Roanoke, Richmond, and Fredericksburg. — A steering committee was appointed at the fall meeting to make plans for this reorganization and for the coming year. This committee includes: William R. Glidden '12, Roger S. Walke '22, Arthur W. Davenport '23, Somerby R. Evans '23, John J. Fahey '29, Winton E. Gladding '23, and Donald N. Frazier '11. — JOHN J. FAHEY '29, *Secretary*, Virginia Electric and Power Company, Richmond, Va.

M.I.T. Club of Western Pennsylvania

On Tuesday, January 21, after a delicious meal at the University Club, we had the privilege of hearing Mr. R. A. Kirkpatrick, assistant to the executive vice-president of the Union Pacific Railroad System, talk on Boulder Dam. For a full hour Mr. Kirkpatrick kept us spellbound with his description of this gigantic project after which we saw slides of the dam in its various stages of development. The question of location and the reason for the dam were fully expounded and then the engineering problems were taken up. To one not engaged in actual engineering the problems met and licked seemed unconquerable and to those following engineering they must have seemed stupendous.

This is a report of our activities, not a *résumé* of the talk nor a suggestion that Mr. Kirkpatrick's services be solicited, but his lecture is most interesting and provides a full evening's entertainment. — E. J. CASSELMAN '15, *Secretary*, Mellon Institute, University of Pittsburgh, Pittsburgh, Pa. E. A. SOARS '21, *Assistant Secretary*, Townsend Company, New Brighton, Pa.

M.I.T. Club of Western Maine

A meeting of the Club was held at the Eastland Hotel, Portland, on Tuesday, January 14, at 7:15 p.m. The usual excellent fare was provided by the hotel management. From a Portland newspaper we quote the following account: "In the near future the demand for M.I.T. graduates can be expected to exceed the supply, Professor Charles E. Locke ['96], Alumni Secretary, declared. . . . At

present the employment situation among graduates is 'very satisfactory,' . . . with good demand in the 'old line' branches of engineering, such as civil, mechanical, and electrical, while an upturn is needed in such specialized fields as naval engineering and building construction. All graduates now have reasonably good jobs, he said, except that many would take whatever better opportunities arise. . . . The 'spirit of solidarity' between student body and Faculty and Faculty and administration and the 'good, sound common-sense foundation' now extant at the Institute, were described by Professor Robert E. Rogers of the English Department.

"Many of the student problems which have thrown other colleges and universities into turmoil, have been handled so intelligently by the Institute administration that there is scarcely ever a ripple of excitement on the surface, Professor Rogers declared. He also praised the 'common sense' handling of the Institute's finances during the depression 'so that never at any time has there been cause for the slightest uneasiness by anybody.'

"The teachers' oath law, which caused so much trouble at other institutions, was taken 'as a matter of course' by the M.I.T. Faculty, Professor Rogers said, the attitude being that a law is a law, although it may be the result of a temporary upset, and that things would work out well in the end. Despite all the surface calm, there is a steady progress going on and policies are being settled on a solid basis, he declared.

"Professor Locke joined with Professor Rogers in crediting the present administrative officers of the Institute with the efficiently smooth organization now prevailing. — Professor Locke supervised the showing of high-speed motion pictures produced at the Institute, attaining 6,000 pictures a second. Subjects included the flight of birds, dropping of liquids, darting of a snake's tongue, smashing of light bulbs, and the wing motions of flies and mosquitoes."

Officers for the ensuing year were elected as follows: President, Stanley W. Hyde '17 of Yarmouth; Vice-President, William N. Todd '04 of Portland; Secretary, Alfred E. B. Hall '15 of Saco. Those present in addition to those just mentioned: Major H. Leighton, Captain L. W. Gilliatt '20, and Lieutenants K. M. Pattee, A. E. Perkins, L. R. Macadam '27 from Fort Williams; W. M. Wheildon, Jr., '30, R. T. Greep '34, R. C. Wagner '23, C. O. Van Earde '34, H. S. Weymouth '19, L. D. Nisbet '09, C. E. Fogg '06, J. E. Barlow '05, C. H. Baker '22, D. O. Hooper '15, R. M. Jones '30, E. H. Packard '07, J. A. Warren '91, W. A. Kirkpatrick '32, E. M. Hunt '94, C. A. Bartlett '27, E. B. Murdough '20, T. A. Hurlbut '28, R. F. Bennett '99, W. S. Newell '99, E. Sutermeister '99. [Material was received from two sources, and we have combined them in the report given above. — The Editors] — ALFRED E. B. HALL '15, *Secretary*, 94 Beach Street, Saco, Maine.

Plan to attend Alumni Day at M.I.T. on June 8, 1936

CLASS NOTES

1875

Your Secretary has devoted some time lately to trying to locate some of the members of the Class who have not been contacted for many years, if at all, since graduation, and must confess that it is mostly a thankless task. Two letters recently received are, however, a stimulus to further efforts and your Secretary intends to continue the search. Meantime, he would appreciate any information about the following men whose names are given in the latest Alumni Directory of October, 1935: Lothrop H. Faulkner, Aberdeen, Wash.; George Osgood, Kensington, N. H.; Edward N. Sampson, 30 Sedgwick Road, West Hartford, Conn.; Frank P. Tenney, 34 Bridge Street, Manchester, Mass.; Clifford R. Weld, Marion Road, Rock, Mass. All of these were addressed in November, 1935, but up to the present time no replies have been received.

Charles A. Simpson writes: "I have retired from active business and am living in Bellingham now, but my post-office address is still Medway, Mass., as I am on an R.F.D. route. The Class History of 1926 gives a brief sketch of me and I have little to add to it. For the last 10 years I have been enjoying country life with plenty of time for reading and study. I trust that I may be able to attend the annual meeting in May."

S. P. Jewett writes: "I am pleased to learn that my name is still carried on the roll of M.I.T. as one of the Alumni still on earth. You are asking for a short account of what has happened to me since leaving the Institute. In 1876 I went to work in the engineering department of the city of Cincinnati. In 1877 I was made chief engineer and built the Cincinnati, Georgetown, and Portsmouth Railroad which has since become a part of the Pennsylvania system. In 1878 my wife and I, allured by the tales of the fortunes to be made in southern California in orange culture, came to Pasadena. However, I soon discovered that if I wished to provide bread and butter, I would have to return to my profession, which I did. In 1883 I became chief engineer of the Los Angeles and San Gabriel Valley Railroad which was afterward extended under my directions to Barstow, Calif., where it connected with the A. T. and S. F. R. R. and was purchased by them to form their Pacific Coast terminus at Los Angeles, Calif. At that time I was made general manager of the Pacific division, which office I held until compelled by ill health to relinquish it. In the meantime I had become associated in the organizing of the street-car lines of Los Angeles and after having regained my health I was elected vice-president and chief engineer of the Consolidated Street Car Lines which were converted under my directions to cable lines. These were afterward sold and supplanted by electricity with which they are now operated. I became interested through a party of capitalists in the development of the water resources

of the Owens Valley which were afterward completed by the city of Los Angeles and now form the chief source of its water supply. Since that time I have been interested in, but have not yet completed, a water-power electric plant in the Sierra Madre Mountains. This gives you a short synopsis of my life since coming to California." — THOMAS HIBBARD, *Secretary*, 4 Ridge Road, Milton, Mass.

1885

One classmate bound for the South on his yacht writes: "A few days ago, I had lunch with Hugh MacRae in Wilmington, S. C. Hugh has been doing a remarkable piece of work, and is regarded as one of the leading citizens there." — David Baker was the first manager of the steel works of the Broken Hill Proprietary Company in Australia. The B.H.P. Review for October, 1935, carries a story of the founding of this company and a subsequent issue is to contain a continuation of this material. We hope to be able to give further details later. — ARTHUR K. HUNT, *Secretary*, 145 Longwood Avenue, Brookline, Mass.

1887

From the Springfield *Republican* of August 4, the Secretary quotes the following article on the life and professional career of our late classmate, Guy Kirkham, who passed away on August 3: "Guy Kirkham was born in Springfield, Mass., November 14, 1864, the son of William Kirkham, Jr., and Harriet Newell (Merriam) Kirkham, and spent most of his life in that city. His ancestry dates back to the early New England settlers on both his mother's and his father's sides. His mother's father was Charles Merriam of the G. and C. Merriam Company, publishers of Webster's dictionary. He was educated in the local public schools and St. Paul's school at Concord, N. H. He was a member of the Class of 1887 at the M.I.T.

"In 1887 Mr. Kirkham had a thrilling experience in a shipwreck by which he nearly lost his life. He was returning home on the *Merrimack* after a vacation trip to Prince Edward's Island. The ship struck a rock 150 miles from Halifax and went down about midnight. All passengers escaped, the women being saved in the life boats, while the men were obliged to swim to a nearby rocky island.

"After graduating in architecture he went to St. Paul, Minn., and worked from 1887 to 1889 under Cass Gilbert, the architect of the Minnesota state capitol, who was to become celebrated later on. He then went to New York and entered the office of Renwick, Aspinwall and Russell, remaining there from 1889 to 1891, when he returned to Springfield to enter the employ of Gardner, Pyne and Gardner, local architects. After a short stay in his native city, he went to Europe to study architecture in England, France, and Italy, where he stayed for a year. Mr. Kirkham opened an office for himself on his return from Europe in 1893 at 33 Lyman Street and continued in practice at

that location until he formed the partnership with Mr. Parlett, who had been practicing here for about 10 years, in 1904. During the World War Mr. Kirkham gave up his profession to serve as chairman of one of the local draft boards and to assist in other enterprises.

"Among the buildings Mr. Kirkham designed before the formation of the firm of Kirkham and Parlett were the gymnasium at Wilbraham Academy, the Springfield Home for Aged Women, and the Unitarian church at Northampton. Among the private residences for which he was architect were the homes of N. N. Fowler, C. A. Bowles, Dr. F. E. Hopkins, and Dr. R. H. Seelye, and the summer homes of Elisha Morgan, Chester W. Bliss, and Dr. W. G. Schaffer. Among the many buildings designed by the firm during its 28 years of existence the office building of the Massachusetts Mutual Life Insurance Company, the Forbes and Wallace store, and the High School of Commerce are the outstanding examples.

"In 1897 Mr. Kirkham became a fellow of the American Institute of Architects. He was a member of the commission on the city charter, a charter member of the Connecticut Valley Technology Association and at one time its chairman. He was actively engaged in organizing the Springfield Architectural Club and was one time chairman of that club. He was a member of the Springfield Lodge of Masons, the Sons of the American Revolution, an incorporator of the Springfield hospital, and a director of the Home for Aged Men. Over a period of many years Mr. Kirkham had been an occasional contributor to the *Republican* of articles on architecture or the esthetic phases of our community life, all of which revealed the author's keen appreciation of the finest cultural values. He was also a member of the Saturday Night and Gladden Clubs, and an active member of the Church of the Unity, recently being elected a member of the special committee which has in charge the changes being made in that church. — A volume of Mr. Kirkham's selected essays and papers was recently published, for private circulation, under the title, 'From One Age On to Another.' Interesting material about the Springfield of his boyhood contained in the first chapter has local historical value.

"Mr. Kirkham was married on June 15, 1892, to Miss Grace Freeman Dwight, daughter of George Dwight, Jr., of this city. His wife's paternal grandfather was the last civilian commandant at the Armory and her maternal grandfather was president of the Springfield Fire and Marine Insurance Company. Besides his widow, Mr. Kirkham leaves a son, Philip Leffingwell Kirkham of Riverside, Conn., three daughters, Mrs. Albert H. Bemis and Mrs. Constance Southworth of this city and Mrs. Stuart Hawkins of Fair Haven, Vt., a half brother, Dr. Walter A. Hosley of Waban, and eight grandchildren, Ann and Sally Kirkham, Caroline, John, Betty, and Barbara Southworth, and David and Frederick Hawkins."

1887 Continued

Carter writes that he and Mrs. Carter are starting on February 1 for a six weeks' cruise down the west coast of South America on the *Santa Lucia* of the Grace Line, going as far as Valparaiso, Chili. He says he will see us again in June.

From Florida comes the following interesting letter from another classmate, William B. Blake. Listen carefully to what he has to say: "I am spending my third consecutive winter in St. Petersburg, Fla., where there is a spring called 'The Fountain of Youth.' I drank of its malodorous waters. On December 24 Mrs. Emma J. Ireland of Newburyport, Mass., and St. Petersburg, and I were married and are now housekeeping at 244 Twentieth Street, North. We are both natives of Newburyport, where we were classmates in the local high school. We expect to attend the 50th anniversary reunion of '87 in 1937, and, as usual in recent years, I intend to be present at our class dinner next June." *Congratulations.*

Any communication from our old stand-by, George Otis Draper, always lends an added interest to the class notes, and here is the latest, just in from San Pedro "... Life here is not exciting. Took a trip to Boulder Dam and marveled at the cement, but found more of human interest in the near town of Las Vegas, where I went into 12 gambling houses on the main street, downstairs, ignoring those upstairs and on the side streets. What strikes me, with all the current gambling spreading all over the West, is the fact that the poor suckers don't know the first principles of play, since most of them lack an engineering education. They are even fascinated by slot machines that are authoritatively proven to yield but 30% from each dollar taken.

"Men robbed one of our gambling barges with silk stockings pulled over their faces. They did not want to hang them as pirates under the law, so decided the boat was in a mythical arbor made by drawing a line with a ruler from one cape to another 30 miles distant. — I went to Scotty's castle to find two millions really spent in a lone canyon where the first good cloud-burst will leave the wreckage 4,000 feet below. — Taxes will drive out all the plutocrats from California soon, including the movie stars who pad the seats with ermine. — The Southern Methodists came here the other day to show the boys how to play modern football; it seems like modified bean bag to us old players. . . . (Yes, I did play in half of one game once!)

"I can't add much, as I have been doctoring for three months. Getting better now. We have warm weather, but a lot of fog; 50 miles up the mountains will give all the snow necessary; lots of hot springs at the base of the mountains, and I shall week-end at one of them Saturday. Will see you at the reunion in 1937. . . ." — NATHANIEL T. VERY, *Secretary*, 1 Hamilton Street, Salem, Mass.

1889

The class dinner this year will be held in Boston on or about April 21. This change of date is made to accommodate

the members who spend their winters in Florida and other southern resorts. Due notice will be mailed later. — WALTER H. KILHAM, *Secretary*, 126 Newbury Street, Boston, Mass.

1891

The Class held its regular mid-winter dinner at the University Club, Boston, on Friday evening, January 24. The following were present: Ambrose, Barnes, Bowen, Bradlee, Brown, Cole, Clark, Dana, Dart, Damon, Douglass, Fiske, Forbes, Fuller, Hatch, F. C. Holmes, G. A. Holmes, Howard, Keene, Ryder, Smith, Snyder, Vaillant, and Young.

We were very glad to see Fred Snyder who has not been with us for some time, also Linfield Damon. We were sorry not to have Barney Capen with us, but it was a cold night and it did not seem best for him to try to make the trip. After the dinner we all lined up at the telephone and sent him our greetings and best wishes.

Barney always helps get us together by phoning almost everyone interested. Then we all like to see each other whenever possible, and the results exceeded our expectations, regardless of the weather. The Secretary's guess was: 18 minimum, 22 maximum; 25 showed up.

Regrets or best wishes, and so on, were sent from Ensforth, Aiken, Swan, Atkinson, Wetherbee, Bird, Moore, Mitchell, Roots, Lawrence, and Walker. Jim Swan had just returned to New York from a visit to his daughter on the Coast. He visited the Hoopers in Pasadena and went to the Rose Bowl game with George. Fred Blanchard expected to come but had a slight upset at just the wrong time — he is all right now. White and Wilson hoped to come but didn't make it.

Eli Bird wrote a letter to the Secretary which was read at the dinner. There is no question where Eli stands politically and apparently most of those present agreed with him: "My dear classmates gathered around the festive board — would that I could be with you and catch again the thrill which always comes with our gatherings. It is not to tell you what I am doing, so much as to inspire in you all the need of a determined stand against the powers that are exerting every effort, by base means and underhanded tactics, to hold power in Washington for four more years.

"In 1932, after having put off too long any attempt to do any cartooning for the National Republican Committee, I resolved to start early in this year we are in, 1936. Accordingly, I prepared a number of cartoons, and for about six months made them for a bimonthly, *The Awakener*, in order to make known my work to those who were almost sure to see them, in the higher ranks of our party. In brief, outside of this publication mentioned I did some work for The Crusaders; I am now working on a number of ideas for The Liberty League, and have a number of cartoons now in Washington — as many here — and nearly a hundred rough ideas, as memos in case they can be adapted to timely use.

"This country has never been confronted with such danger as now is directly in operation to perpetuate itself, and the pity of it all is that the nation, as a whole, is so blind to it. For Roosevelt himself, I have little if any respect: His ego far surpasses any president we have ever had. He has the complex that he is the born-for-the-purpose director of this country's future. He seems to see eye-to-eye with Adolph Hitler who wrote in his 'Autobiography': 'A shrewd and continuous propaganda can make a people believe hell is heaven and that the most miserable existence is a paradise on earth.'"

The following proposed letter to classmates was read and received unanimous approval: "It is proposed to hold the Forty-fifth Reunion at East Bay Lodge, Wianno, Mass., on June 18, 19, and 20. Further notices and details will be sent you later. *Hold these dates open.*

"Much water has gone over the dam since we left Technology. We cannot expect many more of these enjoyable reunions. To those who attended previous reunions, especially the 20th and our five-year reunions since then, nothing need be said, as you know all about it. To those who have not attended recent reunions, we can simply say: We hope you can come this time; we will give you a hearty welcome; we would like to see you; we know you will have a good time. The cost of the reunion itself will be \$7.00 a day for the time you are there.

"In order to take care of extras and the cost of printing a class book following the reunion (as was done at our 40th), it will be necessary to provide a class fund for that purpose. Any excess will be used for future current expenses."

After dinner Gorham Dana showed the movies of our Fortieth Reunion at East Bay Lodge and those taken at our party at Aiken Manor last summer. He also showed a colored movie using the new Eastman film, which he took at Sunapee. The colors were very good. He uses the regular movie camera without filters.

As usual, President Bradlee presided and made the Secretary do all the work. Perhaps we can get Harry to make a speech some time if we live long enough, but most of us doubt it. We drank a silent toast to Arthur Howland, the only member of the Class who has passed on since our dinner a year ago.

Some of the more recent visitors to Barney at Cohasset were Rowland and Mrs. Barnes, George and Mrs. Holmes, his daughter, and one of his sons, and Gorham Dana, Howard Forbes, and the Secretary, who went out together one Saturday.

We were sorry to hear that George Rogers' brother died recently.

George Vaillant spent several weeks in Mexico City last fall and is very enthusiastic about it. He says it is a very law abiding place. Your property is safe wherever you take it or leave it. Gangsters are unknown. I forgot to inquire whether you have to talk or walk Spanish. Probably it is like Paris where you can get along very well without French.

Plan to attend Alumni Day at M.I.T. on June 8, 1936

Harry Young writes Barney: "I had all my family up to Washington, Conn., for Thanksgiving for several days and we climbed mountains or hills, whichever you call them. There isn't a level piece of ground in the town. George Vaillant wasn't there, as he was spending the fall in Mexico and had a great time there. A couple of weeks ago Steve and George and I went up for several days at his bungalow in Washington, Conn., and took Eddie Hobart, a Harvard man, along to make up four and we had a fine time trying to keep warm and tramping around. Steve was in for dinner last night and I took a walk with him this morning. We always — Steve, George, and I — take a Sunday morning tramp of three or four miles just to keep us in training, but George was in New York this time. George has a bad habit of getting up at 6 o'clock in the morning and waking everybody up. But there is one redeeming feature, he makes good coffee and it's always ready when you come down.

"I don't know what I am going to do, but when it gets slippery I may go to Florida. Anyway I have a good excuse this year to do it. Hope you are keeping warm and get plenty to eat down there in Cohasset. First time I'm down that way, will certainly look you up. — Saw Linfield Damon over at the Club last week, New Years' day, and he opened a bottle of champagne, which seemed like old days. He looks well and doesn't seem to grow old at all."

Incidentally, the Secretary and Mrs. Fiske ran across Linfield and Mrs. Damon at a New Years' Eve party at Longwood Towers. Linfield knew Mrs. Fiske before the Secretary did, which is going back into ancient history (not intending to cast any reflections on Mrs. Fiske's age).

A brief letter from George Campbell in New York says: "California seems to occupy the center of the '91 stage. Do the men out there really lead a more interesting life than those who have remained here in the East? Or do they just have more time to write?" — Our Pacific Coast friends do seem to enjoy themselves: do about as they please, have a grand time motoring all over the Coast, and the climate is decidedly in their favor, even if they do admit that it rains once in a while.

Ed Smith sent Barney a calendar showing a clipper ship and wrote a nice letter which is well worth putting in print: "We are sending to you our 1936 calendar and, between you and me, I like it. It takes me back to boyhood days and sailboats. Believe it or not, I got my first ideas from Webster's 'Unabridged.' The stately full rigger caught my fancy and besides, it was the only sailing craft shown with any degree of detail. My navigation was accomplished summer times at Uncle Sam's farm where there was a pond of sorts behind the barn. He ranked me as commodore. Just how many were in the fleet is not recalled, but many a likely piece of soft pine, culled from the wood pile, became the hull of one of these ships — the aristocracy of the seas. I could build and rig the ships after a

fashion, but the sail-making job fell to Aunt Sarah and her friends. There were a lot of them — sails, not friends, I mean. Indeed, it is suspected that during my sojourn at the avuncular domicile neighborliness somewhat waned. The penalty of becoming ensnared in the enthusiasms of a kid naval architect was too great. Just the same, there is nothing afloat to compare with those old 'full riggers.' I like 'em; and today, there arises within me the urge to whittle out another clipper.

"Then I like the old full rigger for its history, for what it accomplished for our country, for the part our clipper fleet played in establishing our national prestige. The clipper is inextricably interwoven in the most important part of our country's annals. In this day when so many experimenters are being cultivated at government expense, who, like the Persian poet, want to smash to bits the things wherewith we have achieved greatness and glue them together according to some vague caprice — in such a situation the old clipper ship is to me a symbol of those things that have made our country really great, the envy of the world, that have achieved the highest and finest standard of living ever known, and have made possible advantages and comforts — yes — and luxuries.

"To me our calendar not only portrays a thing of beauty, but it pictures and symbolizes the hard work and endurance and perseverance that have wrought these achievements and commanded attention for our country; these are the same qualities which have put our concern where it is and which, with honest goods and honest service, alone entitle us to consideration."

A letter from Charlie Garrison written December 7 tells of his home in Santa Barbara and a trip to Mount Figuerva (4,512 feet high). They spent Thanksgiving with Bob and family at Altadena. — Another letter was written the day before Christmas: "We came here (San Francisco) last Wednesday from Santa Barbara on a fine, clear, snappy day. The temperature was 36 degrees on the start and continued cool as we went inland. By the time we reached King City it began to warm up.

"During the first half of the journey we could run for long stretches at 60 to 65 miles an hour. We crossed the Gaviota Pass leaving the ocean until we picked it up again for a short space at Pismo Beach. From Atascadero to Salinas we followed the Salinas River bed (dry enough to sleep in), crossing it several times as the road shifted from one side to the other. There was very little traffic and good roads all the way. A stop of a few minutes at King City and we were on our way to Salinas. Here we left the main highway to go to Santa Cruz. Before reaching this city we came to the ocean again at Moss Landing where we parked facing the beach and ate our picnic lunch. Twenty-one minutes for lunch and then in again to Santa Cruz. From here we ran 26 miles on a rather narrow (two-lane) road with few places to pass slower traffic. The road skirts a canyon on the

right with a sheer drop of 100 feet or more to a valley, populous with fishermen in the springtime when there is water enough to wet the fishes gills. On the right the land rises abruptly, how far you can't judge since the evergreen growth covers the roadside and arches overhead. We pass the entrances to Giant Redwood parks. You seldom see the sun in this sylvan stretch. At Saratoga Gap we turn sharply to the left and find ourselves on the famous Sky Line Drive which we follow for more than 50 miles. We follow the ridge on a winding road at an elevation up to 3,000 feet with wide views on each hand. It is hazy as usual, but we can see the top of Mount Diablo far to the east of Oakland. As we approach the city the road descends through open country and crosses a large reservoir. Passing Golden Gate Park we come to the waterfront where giant waves are rolling in with the spray blown back as they break on the shore. It is the heaviest sea seen here in years and a very beautiful sight. At Seal Rocks we turn eastward to Stockton Street, getting glimpses of the Golden Gate bridge and the long Oakland spans before arriving at our final destination. The trip was 357 miles and the elapsed time, nine hours, six minutes. You will be amused at the schedule I made before starting when I planned that we would leave at 7.00 A.M. and arrive at 4.05 P.M. Our actual time was 7.00 A.M. and 4.06 P.M.! You see on my schedule I failed to take into account the extra minute we took to see the waves!

"Sunday we spent most of the day in Berkeley. We called on the Hersams as always and it was enjoyable to see them again. Ernest is breaking into private theatricals and we may next hear of him in Hollywood, for they are ever on the alert to catch new talent.

"Next Monday we return to Santa Barbara and the following day to Altadena. New Years' we expect to be present at the Tournament of Roses. Quite busy for an old couple?"

Change in address: Paul W. England, 39 Gladstone Street, Squantum, Mass. — HENRY A. FISKE, *Secretary*, Grinnell Company, 260 West Exchange Street, Providence, R. I. BARNARD CAPEN, *Assistant Secretary*, The Early Convalescent Home, Cohasset, Mass.

1893

Among the Boston society events of the winter was the recital given by John Sturgis Codman on January 21, in the Empire Ball Room of the Hotel Vendome. This, his first public Boston recital in recent years, received much favorable comment in the press. *The Herald*, in reporting the event, said: "Mr. Codman, who is a baritone, gave an interesting program which included two songs of Richard Strauss, some Schumann and Brahms, as well as the 'Pilgrim Song' of Tschai-kowsky and the 'Vision Fugitive' from 'Herodiade' by Massenet. He was applauded with enthusiasm and had to give several encores, among them 'On the Road to Mandalay,' which pleased his audience still more. There were many of

1893 Continued

social distinction present." The *Transcript* spoke of the recital as "in good taste" and said: "Mr. Codman's interpretative gifts may best be described as refined. His phrasing was sustained and musical. Above all, his diction, whether the song was English, French, or German, was enviable."

On January 20 the surgical department in the new building of the Massachusetts Memorial Hospitals was formally opened. Of those present one of the most interested was our Assistant Secretary, George B. Glidden, whose wife's father, Dr. Conrad Wesselhoeft, was one of the founders of the Massachusetts Homeopathic Hospital (the name was changed later to the Massachusetts Memorial Hospitals). Elected to the board of trustees in 1922 and to the secretaryship in 1924 Glidden has given freely of his time to the upbuilding of this, the second largest charitable hospital in the State. At the present time he is vice-president and secretary.

A few years ago, owing to lack of funds and an increasing deficit, a committee was appointed to "consider the future of the hospitals," it being the general feeling among the trustees that the institution should close. As a member of this committee, Glidden with one other member fought through many meetings to continue the hospitals and finally won out. He was appointed chairman of a committee to make certain changes which would reduce expenses and increase income, and at the same time was chairman of a drive to raise \$100,000 to meet the deficit. The changes and the drive were successful, and when two years ago it seemed wise to build a new building which would house an increased number of private patients, he was appointed chairman of the building committee. This new building which is now being opened has been inspected by many hospital superintendents, physicians, and surgeons, and all agree that it is the last word in hospital construction and equipment. Glidden not only can feel justly proud of the institution in which he has taken such an active part, but can feel also that his efforts and time were well spent. (F.H.F.)

Jonathan Edwards Woodbridge of San Francisco, one of Technology's most devoted Alumni on the Pacific Coast, died at Mills Memorial Hospital, San Mateo, Calif., on December 23. In the class news of The January Review was a most interesting account which he had written of his son's unusual six months' experience on Wake Island in the Pacific, in the establishment there of the Pan American Airways base, one of the four on this recently inaugurated transpacific airmail route to Manila. It was just after the November 20 luncheon of the Alumni Club in San Francisco, where Woodbridge presented his son as guest speaker, that he was taken ill. James A. Emery of New York, with whom Woodbridge for many years had been closely associated in the engineering work of Ford, Bacon and Davis, in writing of his death says: "He had been sick for about five weeks

and it was not thought to be serious until up to near the end, although they could not locate the trouble. An autopsy showed it to be an abscess on a valve of the heart. Mrs. Emery and I spent a week in San Francisco last summer and saw a great deal of the Woodbridges, making a trip to the Yosemite with them. Woodbridge had every appearance then of living to a ripe old age."

Following his graduation with the Class in the Electrical Engineering Course, Woodbridge spent four years in telephone work and in experimental and development work with relation to automatic machine telegraphy. He then turned to journalism in New York, being at first editor of the *Electrical World* and then editor of the *American Electrician* in the three years, 1897 to 1900. For nine years he was connected with the railway engineering department of the General Electric Company at Schenectady, resigning this position in 1909 to accept that of resident engineer at San Francisco for Ford, Bacon and Davis. For a quarter century he directed Pacific Coast business of the latter engineering organization. He helped build the generating and transmission systems of the Sierra and San Francisco Power Company which he served as chief engineer. He was consulting engineer for the Market Street Railway Company and had charge of the electrification of that railroad system.

For years Woodbridge was the mainstay of the local alumni group and he had served as president of the M.I.T. Club of Northern California. He took an active part in professional and civic affairs of San Francisco, was a member of the Engineers' Club of which he was president in 1920-21 and was a member also of the San Francisco Commonwealth Club and the American Institute of Electrical Engineers. He made numerous contributions to the technical press and to the Proceedings of the American Institute of Electrical Engineers and other technical societies.

Woodbridge was born at Duluth, Minn., January 20, 1872. He is survived by: his widow, Mrs. Katherine Blake Woodbridge, to whom he was married in 1906; by a daughter, Mildred Ethel; his son, Jonathan Edwards Woodbridge, Jr. The family home is at 212 Eaton Road, San Mateo.

Arthur Gordon Reed, 64, of 20 Lowell Avenue, Newtonville, Mass., assistant manager of vaults of the Old Colony Branch of the First National Bank of Boston, died suddenly of a heart attack on October 31 at the home of Joseph Hussey, Albany, N. Y., where he was a guest. Reed's whole life after leaving Tech was devoted to the banking business, first with the Lechmere National Bank of Cambridge, then as paying teller with the Bay State Trust Company of Boston, continuing with that company after its consolidation with the Old Colony Trust Company and the subsequent consolidation of the latter with the First National Bank of Boston. In 1898 he married Miss Margaret J. Parsons and

they have three sons, Philip G., Robert R., and Malcolm Reed.—FREDERIC H. FAY, Secretary, 44 School Street, Boston, Mass. GEORGE B. GLIDDEN, Assistant Secretary, 551 Tremont Street, Boston, Mass.

1895

It is always a great joy to report the happy events of life as they occur, but it is a painful task to report in these columns the advances made by the grim reaper. There are a number of men who have been most loyal to the interests and traditions of the Class and who have unstintingly given their thought and service for the welfare of their fellow members. When one such passes on, the shock is severe. It is fitting that we record the history of our beloved Edward Haley Huxley: born, November 11, 1873, at Newton, Mass.; died, December 11, at Englewood, N. J.; buried at Mount Auburn Cemetery, Cambridge, Mass.

Ned attended public school at Newton, Mass., and was graduated from Newton High School in 1891. He entered Technology in the fall of 1891 and was graduated in 1895 with the degree of bachelor of science in mechanical engineering. As an undergraduate he always took an active part in class matters: director for three years; vice-president, 1892 to 1893; secretary-treasurer from April, 1898, to January, 1902; captain Company C, Corps of Cadets, during freshman year; member of Phi Beta Epsilon Fraternity. At graduation, he read a thesis on "Test on a Locomotive." On September 27, 1906, Ned married Josephine Eugenie Pittman at Boscobel, Wis. An only son, William Pittman Huxley, was born at Evanston, Ill., October 13, 1909. In the fall of 1895 he entered the employ of Boston Woven Hose and Rubber Company of Cambridge, Mass.; later he became manager of the Chicago office until July 1, 1910, when he became assistant general manager of National India Rubber Company, at Bristol, R. I. He was: manager of Phoenix Glass Company at New York until October, 1913; president of United States Rubber Export Company, Ltd., from October, 1913 to January, 1924. During 1913 and 1914 he traveled extensively in Europe and was in England at the outbreak of the World War on August 1, 1914. In 1916 he made another trip to Europe, going to Russia and other countries; he was a passenger on the *Sussex* when she was torpedoed in the English Channel on March 24, 1916. In 1924 he made a business trip to the Philippines, China, and Japan. On January 8, 1925, he went into the export business with Mr. Ray Willis, as Huxley, Willis and Company, Inc., continuing so until July 1, 1931, at which time Mr. Willis left the company and Ned continued as Huxley and Company, Inc., until 1934. In 1934 and 1935 he entered the employ of the government in connection with the electrical industry and was located at New York. This work was being continued up to the time of his death.

It is interesting to include here a copy of the cablegram sent to President Wilson by Messrs. Edward H. Huxley and Fran-

Plan to attend Alumni Day at M.I.T. on June 8, 1936

1895 Continued

cis E. Drake, two American survivors of the Channel steamer, the *Sussex*, torpedoed without warning by a German submarine: "As citizens of the United States, traveling under the protection of its passports, and as survivors of the *Sussex* outrage, having seen at first hand the horrors and needless loss of life of innocent women and children as a result of the destruction without warning of an unarmed passenger vessel, and having in mind the warning to Germany contained in your various communications and your notification that Germany would be held to strict accountability for its acts, we solemnly protest in the name of humanity and decency against further futile warnings and respectfully call on you to so act as to prevent the further repetition of such piracy, or else to cease the hollow pretense of friendship for a nation willing to resort to such methods as are practiced by the Germans in their naval operations."

We mourn the loss of a sincere and true friend. He was always scattering rays of sunshine to those who were fortunate to meet and know him, and his smiling face and jovial manner will linger as a living monument to his memory.

We are advised through the alumni records of the passing of William H. Greenfield, IX, on August 5, at 8 Beechdale Road, Roland Park, Md. News comes also of the death of Mrs. James H. Wright, IV, at 28 Copley Street, Newton, Mass., on January 12.

Benjamin Curtis Donham, I: born, August 4, 1873, at Rockland, Mass.; married, August 4, 1902, to Edith Alexandria McKean; died, January 14, at Glen Ridge, N. J. Ben had membership in the American Society of Civil Engineers, National Geographic Society, Technology Club of New York, and the Country Club of Glen Ridge. He was civically inclined, having served in minor town offices including the presidency of the Glen Ridge School Board.

After graduation, he served as assistant engineer for the San Francisco Bridge Company; from 1898 to 1900 he practiced as a consulting engineer and resident engineer for the Spreckels Sugar Company; during 1900 to 1908 he was at Seoul, Korea, as chief engineer of the Collbran-Bostwick Development Company; from 1909 to 1911 he was construction supervisor and assistant to the vice-president of J. G. White and Company, Inc.; from 1911 to 1920, consulting engineer, financial and sales representative for companies located in New York City; in 1920, president of Phillips, Doup, and Company of South Brooklyn; in the following years he was mainly interested in consulting work.

While in Korea, he designed and constructed the Imperial Highway to the Queen's Tomb. Known to his intimate classmates as Big Ben, he will be remembered for his genial address, his fidelity for the things that stood for right and for good government, and for his never failing faith in humankind. The New York boys in particular will miss him. We all mourn his passing.

During the 40th-year reunion of our Class at Osterville, last June, Mr. and Mrs. James S. Smyser '96, II, called to renew their acquaintance with the Class of 1895. Jimmy S. started with '95, but being a five-year student, he finally affiliated with the Class of '96. We all enjoyed Jim's call and he enjoyed it as well, finally enrolling as a full-fledged member of '95. Only recently we learned of his death on June 15 in Quincy, Mass., just 13 days following his reunion with our Class. Having formerly worked with the General Electric Company in their engineering department he later conducted a research laboratory of his own. Let taps be sounded! — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass. JOHN H. GARDINER, *Assistant Secretary*, Graybar Electric Company, 420 Lexington Avenue, New York, N. Y.

1896

[As these notes go to press, The Review Editors record with sorrow the sudden death on February 8 of Professor Locke's wife.]

The big news at this time has to do with the celebration of our Fortieth Anniversary. Definite word has been received from Charlie Brown at East Bay Lodge saying that he is all set to take care of us Thursday, June 4, to Sunday, June 7, inclusive.

First of all, those who have definitely replied that they will be present are as follows: Mark Allen, Billy Anderson, Admiral Bakenhus, Dan Bates, Billy Clifford, Dr. Coolidge, Bob Davis, Joe Driscoll, M. L. Fuller, Henry Grush, Henry Hedge, Will Hedge, Frank Hersey, George Hewins, Clark Holbrook, Gene Hultman, Charlie Lawrence, Gene Laws, Marsh Leighton, C. E. Locke, Ed Northup, Karl Pauly, Walter Pennell, Myron Pierce, Johnny Rockwell, LeBaron Russell, Walter Stearns, Mike Sturm, Bert Thompson, Perl Underhill, Lloyd Wayne.

A few have replied unfavorably, for one reason or another. These individuals and their status are as follows: Ed Cadieu, who is with the Hercules Kalon Company on Lewis Wharf in Boston, is away on a selling trip during June. Irv Merrell in Florida keeps well if he sticks to his carefully regulated and sober life but any variation such as would be involved in a trip to Massachusetts invariably brings on an upset and a long period of atonement. Chenery apparently is unable to leave his library at Washington University in St. Louis. The distances are too great for W. B. Faville in San Francisco and Joe Pillsbury in Vancouver. Mort Sears in Washington finds that his difficulty in hearing takes away the pleasure of attending any kind of gathering, but George Stratton who is also in Washington offers no excuse. It is suspected, however, that he does not dare to go away and leave the New Dealers without protection. Louis Freedman and L. K. Sager, both of whom are in New York, say with much regret that they just cannot come. Apparently Stanley Howland thinks it is too long a trip for him to make from Asheville, N. C.

There remain some doubtful ones, and remarks or comments on them are as follows: W. T. Dorrance hopes to be with us. Being in the railroad business in New Haven, transportation should cost him nothing. He reports that he saw Trout, Bakenhus, and Charlie Hyde on January 16. They had a preliminary reunion, but no details were given, and the Secretaries are in a quandary to know where this embryo reunion was pulled off, and what were the circumstances whereby this group got together. Henry Gardner is on the fence, and does not seem to be able to make up his mind. He is now living in Brookline, so the distance is not great, but he has been out of touch with the reunions for so long that perhaps he finds it hard to get into the running again. In replying that he would be with us, Henry Grush said that he was going to try to bring along Elmer Robinson and, confirming this, Rob told the Secretary personally that he was going to make an effort to be present. Actually he has not sent in a formal reply, but fortunately he has not said, "No," yet. W. E. Haseltine has been counting on being with us, but there is a complication in that he has a son graduating from Harvard on Thursday, June 19, and another one from M.I.T. on Tuesday, June 9, and he does not feel that he can be away from his business in Wisconsin for too long a period. Actually he called upon the Secretary on January 23 and explained the situation fully. He is going to make every effort to arrange things to be with us if he can. Gene Hultman already is getting in shape, and has replied definitely that he will be with us. He plans a vacation all through the month of March, so as to be fully rested up for Osterville in June. Henry Jackson is in the hopeful class, but his attendance will be determined somewhat by the financial returns between now and June.

Walter James is very doubtful, as he has not been in the best of health during the past few months and fears that this will prevent him from getting to Osterville. Marsh Leighton, in promising to be with us, said that he was going to stir up the Washington crowd, and had hopes of securing Verny Peirce, Joe Clary, George Stratton, and others. Jim Melluish had agreed to be with us, but he has not signed on the dotted line, because he has certain arrangements that he wishes to work out for his wife and daughter, who will be spending their vacation on Cape Cod at the same time. Charlie Paul is in the very doubtful class. He says that although his headquarters are still in Dayton, Ohio, his time there during the last two or three years has been limited mostly to a few days between trips. As a consequence, his golf game has not had nearly the attention it should have. In spite of the depression he has been, and still is, extremely busy with personal consulting service on dams, flood control, and water conservation projects. These include the TVA dams on the Tennessee River, the Muskingum flood-control project for Eastern Ohio, the Coulee dam on the Columbia River near Spokane, which when completed will be

1896 Continued

the largest structure ever constructed by man, the Central Valley Water Control and Conservation Project in California, and several others of less public interest. Unfortunately this work of Paul's does not bring him East, but rather in the opposite direction, and he finds it hard to conceive that he might have a job in New England which would enable him to come here during the first week of June. No word has been received directly from Clarence Perley, but his daughter has guaranteed absolutely that he will be at the reunion. Bill Root in Pittsfield is in doubt, and he says his attendance will depend somewhat upon how many pairs of shoes he is able to sell between now and June. Walter Stearns, in replying that he would be present, said that he had hopes of getting Arthur Baldwin to make his annual trip to the United States from Paris at the time of the reunion, so that he could be with us. Harry Tozier in Toronto has some other irons in the fire which he did not specify, but apparently there are some things coming up in June which may take him elsewhere. He hopes not, and will be able to send definite word in April. Captain Paul F. Johnson is not a member of '96, but he is well known to many '96 men, and has a great interest in the doings of the Class; consequently a notice was sent to him in California, and he replied that he wished that he might be with us, and reported some of the incidents of his student career at Tech. However, he is definitely committed as commodore of the Balboa Yacht Club in California and his yacht cruises to Alaska in June, so that there is not a chance that he can be in the East. He has a reel of the 1925 Technology reunion which he promises to send to be shown at our reunion in Osterville.

The Secretary has been trying to locate George Bowes. He was graduated from our Class in mechanical engineering and was for many years with the Page Woven Wire Fence Company at Monessen, Pa. After he left there his address was Newcomerstown, Ohio, but mail recently sent to Newcomerstown was forwarded from there to Cleveland, and when the Cleveland office was unable to locate him it was returned to the sender. If any classmate can give a clue to the present whereabouts of Bowes, the Secretary would like to hear from him.

An interesting bit of news on a '96 man has been supplied by L. K. Yoder '95 as follows: "Hermann von Holst is now located at Boca Raton, Fla., about half way between Palm Beach and Miami. He is managing a real estate development and has several very attractive houses of Spanish type, both for rent and for sale. If perchance any Tech man lucky enough to have a winter vacation in Florida should go that way, Von will give him a hearty welcome."

Those of the Class who have had the pleasure of being entertained by Norman Rutherford and Mrs. Rutherford at their home in Waquoit, especially at the times of our reunions on Cape Cod, will learn with much regret of the recent death of Mrs. Rutherford.

A clipping from an Indianapolis paper, sent on by Lloyd Wayne, gave the interesting information that Colonel and Mrs. William Guy Wall left for Washington about the middle of January, where they were the guests of Colonel and Mrs. Dunbar Embeck before going to New York, whence they sailed on January 18 for a trip to South America. — CHARLES E. LOCKE, *Secretary*, Room 8-109, M.I.T., Cambridge, Mass. JOHN A. ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

1897

Arthur Hopkins ran into Pete Noble when in Pittsburgh recently and reported him as in the best of health, but his wife was recovering from a bad accident and was just well enough to start on a trip to Bermuda, which they were about to make in lieu of their annual trip abroad. — Fred Hunnewell, constructor, United States Coast Guard Service, Treasury Department, was recently in Cambridge, Mass., on a visit occasioned by the death of his father, James Hunnewell of North Cambridge. Members of the Class extend their sympathy to Fred. — Benjamin A. Howes has a responsible position in the Resettlement Administration as chief of the materials information division.

On the day following Christmas our classmate, Dwight Clark, passed on, after a brief illness. His death occurred in Philadelphia at the Jefferson Hospital. A resident of Washington, D. C., he was known as a substantial citizen in the work of the Community Chest and Y.M.C.A. He was vice-president of the Phillips Properties, Inc., and a director of the Jones and Laughlin Steel Corporation of Pittsburgh. His interest in art was expressed as treasurer of the Phillips Memorial Gallery of Washington. He was a governor of the Society of Founders and Patriots, a member of the Society of the Cincinnati, the Colonial Wars Society, the Chevy Chase and Metropolitan Clubs of Washington, the Century Association and the Union League Club of New York, and the Duquesne Club of Pittsburgh. As a regular attendant of the Washington Society of the M.I.T. his presence will be greatly missed. The services were held at Wallingford, Conn., where he was buried. His widow is Mrs. Elizabeth Wallace Clark. — JOHN A. COLLINS, JR., *Secretary*, 20 Quincy Street, Lawrence, Mass. CHARLES W. BRADLEE, *Acting Secretary*, 261 Franklin Street, Boston, Mass.

1900

Professor Locke '96 has sent in a letter recently received from Dan Johnson of Silver Peak, Nev., describing the construction of a 100-ton countercurrent cyanide plant for the Black Mammoth C. M. Company. — Frank Chase was in town recently, and among other things said that the Middle West was quite busy in the rehabilitation of old factories and the building of new ones. — Harry Learnard is now at the Pacific Mills, Lawrence, Mass., moving up from South Carolina. — The list of unknown ad-

resses has given up a few of its secrets lately: A. L. Churchman, Bridgeton, N. J.; Joseph P. Allen, Jr., Greencastle, Ind.; Ted Tuck, New Rochelle, N. Y. Ted made his appearance at the reunion last June; he has not changed a bit.

Announcement was made recently by Howard S. Palmer, President, on behalf of the trustees of the New Haven Railroad that C. E. Smith will continue to serve as vice-president under the trusteeship.

The list of recent deaths among the class members includes: William L. Hearne, I and II, who died on June 18; David A. Ellis, V, of Norwood, who died on October 2; Herbert M. Flanders, I, of Orleans, Mass., who died on December 7.

Word came from Locke '96 that Arthur Geiger of Auburn, Calif., has been making an extended examination of the Carlisle Mine in the Meadow Lake district in Sisco, Calif. — C. BURTON COTTING, *Secretary*, 111 Devonshire Street, Boston, Mass.

1901

Remember the dates, June 6 and 7, and keep them clear for our Thirty-fifth Reunion at Oyster Harbors. The time will be here before you know it!

It is my sad duty to announce the recent passing on of two of our esteemed classmates, Charles Campbell and Richard B. Derby. The following is taken from the *Detroit Free Press* of December 29: "Charles Francis Faulkner Campbell, director of the League for the Handicapped from 1922 to 1923 and secretary of the Speakers Bureau of the Community Fund, died suddenly Saturday morning in his home, 617 West Hancock Avenue, of a heart attack. He was 59 years old. . . . Surviving are: his wife, Zelma Leath; three children, Francis S. of Houston, Texas, Mrs. Willard Mead and Mrs. Ronald Parry, both of Pittsburgh; two brothers, Ross of Montreal and Harry of Boston. . . ." Further material appeared in *The Review* for February, 1936, page III of the supplement.

The following appeared in the *Boston Herald* of January 23: "Funeral services for Richard B. Derby, 57, a widely known architect, who died at his home, 184 Parkway, Winchester, Tuesday night, will take place today at 2:15 p.m. at the Winchester Unitarian Church. Mr. Derby leaves his widow, Mrs. Margaret C. Derby. He was a native of Concord, the son of Urbane and Helen Derby, and attended the public schools there. He was graduated from the M.I.T. He was a member of the firm of Derby and Robinson until he recently became associated with the firm of Derby, Barnes and Champney. Mr. Derby had been a resident of Winchester for 30 years and took an active interest in civic affairs. He had served as a member of the Winchester Planning Board and was a member of the board of directors of the Winchester Home for Aged People. He had drawn plans for many public buildings and schools in Greater Boston." — ROBERT L. WILLIAMS, *Secretary*, 109 Waban Hill Road North, Chestnut Hill, Mass.

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1902

Most of these notes are in regard to the younger generation. They seem to be stirring things up more than their fathers. Wendell Fitch and Alice Hunter are seniors at Technology in Courses X-B and V, respectively. Young Fitch has been a worthy member of the cross-country team every fall. Miss Hunter was a member of the debating team last year, speaking in a debate with Middlebury, which Technology won. Albert A. Haskell, Jr., is a junior in Course III. Robert Downes Williams, elder son of Doc is taking a second year of graduate work in metallurgy at the Institute. Last summer he was one of a party of 26 Technology men who made a trip through Europe, visiting many large industrial plants. The party traveled in trucks with camping and cooking equipment. Doc's younger son, Seaton Williams, was graduated from Harvard last June and is taking graduate work in mining geology there this year.

Rev. Dana McLean Greeley, Roger's elder son, accepted a call to the Arlington Street Church, Boston, taking up his duties this past fall. He had held pastorates in Lincoln, Mass., and Concord, N. H., before coming to Boston. Roger is a grandfather for a second time, as Mrs. Dana Greeley has a daughter, Rosamond, born January 24 and named for the daughter that Roger lost some years ago. Roger's younger son, Roland Greeley, was married on July 27 to Miss Polly Kimball of Lexington. Naturally, the ceremony was performed by the groom's ministerial brother. Another '02 connection with this wedding was that one of the ushers was James Woodberry Smith, Jr. Young Greeley is with the Boston office of the National Resources Board.

The engagement has recently been announced of Walton H. Sears, Jr., to Miss Carol Foster of Arlington, Mass. Young Sears is professor of mathematics at Georgia Institute of Technology. He is a graduate of Harvard, taught for some years at the University of Vermont, and took graduate work at Harvard before going to Georgia. — Red Proctor's daughter, Margaret, was married on August 30 to Dr. Carl Frederick Floe, professor of metallurgy at Washington State College at Pullman, Wash. As told last year, Miss Peggy was at Technology doing graduate work in biology and Mr. Floe was also at the Institute taking a doctor's degree in metallurgy. Mr. and Mrs. Floe returned to Washington via Panama, just in time for him to resume his work at Pullman. Another engagement made at Technology is that of the Secretary's daughter, Alice, to Dr. George E. Kimball, instructor in physics at Hunter College, New York City. Dr. Kimball is a graduate of Princeton and took a doctor's degree there in physical chemistry before coming to Tech to do research work under the National Research Board.

Arthur H. Sawyer made an extensive trip to the West this fall to investigate mining properties. He visited mines in

Nevada City, Grass Valley, Calif., zinc mines in northern Washington, Coeur d'Alene, Idaho, and Cripple Creek, Colo. Mrs. Sawyer accompanied him on this trip to San Francisco, Spokane, and Denver, as well as the mines mentioned. In Grass Valley, Sawyer reports a pleasant time with Arthur B. Foote '99, manager of the North Star Mine.

Harold Blanchard died in Japan early this month. He was a graduate of Harvard and took special work in naval architecture at the Institute. He was for some years engaged in shipbuilding in San Francisco, and then returned to Boston where he was connected with a brokerage house. Blanchard was active in military affairs and went overseas as major in the 327th Infantry, coming back as lieutenant colonel with a Distinguished Service Cross and the *Croix de guerre*. After the War he commanded the First Corps of Cadets in Boston. He retired from business before the War and spent much time in travel and hunting big game and in salmon fishing. Lately he has made his home at Nassau, Bahama Islands. He was married in 1932 to Marianne Briggs of Lowell who was with him on a trip around the world, when he was stricken with pneumonia in Kyoto, Japan. — FREDERICK H. HUNTER, *Secretary*, Box 11, West Roxbury, Mass. BURTON G. PHILBRICK, *Assistant Secretary*, 246 Stuart Street, Boston, Mass.

1903

Dean Potter of the school of engineering at Purdue has been nominated as president of the American Engineering Council for 1936 to 1937. Potter has become one of the outstanding educators of the country and is much in the public eye. Potter's son was graduated from Yale last year and a daughter was graduated from Vassar. — Myron Clark announces the formation of a service as management counsel, specializing in problems of finance, personnel, and production in industry. He has opened offices in Reading, Pa., and New York City. We wish him the best of luck. Clark has one son at Juilliard School of Music in New York and another with United States Rubber Company. We remember the first son's interest in music and his playing the organ at the time we had one of our reunions at Eustis' place in Milton several years ago. — Loughlin, who has been in the United States Geological Survey since 1912 and has frequently served as geologist in charge of the division of mineral resources, has been appointed chief geologist of the Geological Survey. — Sears has been elected to the Advisory Council on Athletics at the Institute to serve until 1938. — Pulsifer has joined the staff of the American Steel and Wire Company in Cleveland, Ohio. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, 89 Broad Street, Boston, Mass.

1905

Evidently we started off the January notes with poor judgment because Mike Mackie, VI, writes resentfully about our

giving Strickland, IV, "headlines" in bragging about a granddaughter. He says: "I guess old Boston Town must still be slower than the West, as I have three grandsons, the youngest a year and a half old, and do not see any reason for Sid stealing the show." This suggests an '05 East versus West Grandchildren Contest. Come on, all you granddaddies, send in your entries and incidentally bring your class history up to date. We're betting that there are lots of grandchildren that haven't been chronicled in class annals.

Which again reminds us that we haven't been able to find out why Jim Barnes, VI, moved down South. His latest address is 161 South Ann Street, Mobile, Ala. Can anyone dig him out or explain his recent nomadic tendencies? — Carlton H. Manter, IV, who hasn't been heard from for a long, long time, digs himself out of obscurity with this bit of news: "Since you last heard from me enough has happened to fill many volumes. About five years ago, I returned to Taunton — my old home town — not as an architect, but as an educational adviser. Of course, I have been through all the difficulties that have been common to the species. Last March just by chance a friend asked if I were doing any draughting and, of course, it was a great shock. However, from that, I started from scratch again and had a fair year's business. At this moment, I have more business in sight by 100% than all last year. Somehow or other, my case seems to be proving that the pastures at home are just as green and perhaps greener than the neighbors'."

The New York *Tribune* of January 12 carries this story of our much publicized Charlesworth, VI: "Harry P. Charlesworth, assistant chief engineer of the American Telephone and Telegraph Company, was reelected chairman of the Engineering Foundation, research organization of national engineering societies, whose headquarters are at 29 West Thirty-ninth Street." Must be his increasing national honors that have caused a retiring of the hair line.

Speaking of national honors brings back mention of Professor Warren K. Lewis, X, and the award of the Perkin Medal in January. Bill Spalding, III, sends (via Hub Kenway) a page from the *Indicator*, a journal of a section of the American Chemical Society, showing front-page photographs of two illustrious doctors. By a transposition of titles, Doc seems to have aged terribly under the strain of medal receiving. The *Literary Digest* of January 4 carrying a story of this latest award calls Doc America's Number 1 Chemical Engineer. The accuracy of their straw votes leaves no doubts in our mind as to this latest cognomen. Kenway's son, Herbert P., Yale '33, was married in November to Miss Ursula Poor of Danvers and is now located in Washington with a very fine firm of patent attorneys. He is going to George Washington University Law School and is a member of the Patent Office Navy, whatever that is. Hub, by

1905 Continued

the way, is known to be playing indoor tennis regularly, taking lessons, and incidentally planning to get even with Ralph Hadley, I. A return match has been scheduled for the next reunion.

Roy Allen, III (new address, Box 285, Cambridge, N. Y.), writes in regard to his change of address: "The move to Cambridge did not mean any change of business or financial status. Unfortunately there seems to be no prospect (nearer than very remote) of retirement on account of excess wealth. The move, which has meant merely a greater distance to commute, was made chiefly on account of our boy. Over five years ago, scarlet fever left him with nephritis. He seemed to be getting along quite well until he had a bad breakdown a year ago and we had to take him from Mohawk School to the hospital. The doctors gave no hope, but he showed so much improvement that he came up here to Cambridge with his grandmother late in the summer. Another serious setback occurred in September and we took him to the very excellent hospital in Cambridge, where he was not allowed out of bed for three months. We brought him home for Christmas, and he is still here, but has to spend most of the time in bed. The doctors give no encouragement, but he seems a little better, and we still hope.

"No, I have done nothing famous lately and nothing very infamous. The past four years have been almost a dud. A little contracting, a little consulting work, some appraisals, some design work (factory and other buildings), some estimating for larger contractors, and between times selling boilers, stokers, and power equipment on commission. We hope for something more fixed and substantial before long. — I was sorry to have missed the reunion at Old Lyme. It happened at almost the same time as Mrs. Allen's 25th reunion, which I insisted she should not miss; she was further obligated by her official position as president of the Eastern New York Mount Holyoke Association, so she had to go back. If our running legs are still good, we will attend the 50th." At this later date, we trust the lad has shown unexpected improvement. Roy has the moral support of the whole Class and a combined hope of speedy recovery. He won't have to keep those old legs massaged for the 50th, as there will be plenty of reunions in the interim.

John C. Damon, VI, moved also, so we get some news from him: "After two-and-a-third years with the Public Service Commission of Wisconsin as chief engineer, the S.E.C. enticed me to Washington. While my time in Madison, Wis., was short, it was practically double the average time of my three predecessors in that office and was long enough to make us regret leaving Madison. My wife and son were as happy in our home life and friends there as I was. Of course, Washington is a wonderful city to be in and we shall enjoy it, too. We shall also appreciate the greater possibility of seeing our friends here where more of them are

likely to pass through. Our residence telephone is not in the book as the latter had gone to press when we arrived, so make a note that it is Randolph 9541. My office is Room 315, at 18th Street and Pennsylvania Avenue, Northwest, and the telephone, DIstrict 3633, Extension 203. I had noted your assumption of the strenuous office of Secretary, but quick moves of 800 miles with a family are not conducive to writing letters even to our honored Class Secretary." John's residential address is 1320 Emerson Street, Northwest, Washington, D. C. Washington residents and visitors take notice.

Carl Graesser's, II, dare that we look him up at the Copley Plaza some Tuesday night met with many ready written comebacks. One of his classmates suggested that we "act in the capacity of a 'spiritual lifter upper' to our 'alone in a great city' classmate." So the Steering Committee, five strong, including your Secretary (*ex officio*), descended on him on Tuesday, January 21, and found him duly prepared. Much was accomplished. Bob Young, V, thought the Class ought to visit his farm in northern Maine in the early spring and Bert Files, I, invited us to a regatta at Hingham in May. Andy Fisher, X, still clung to the idea that we ought to get together with Burkhardt, XIII; so, monthly reunions are pretty well planned for the next six months. A full report of the Committee's deliberations will be made at the next official class meeting. Incidentally, Files brought his movie projector along and showed us a couple of films. Evidently the crowd was too fast for his camera at the 30th reunion, as he didn't get many "shots," but Ros Davis had sent up a reel taken at the 25th, which was much enjoyed. Ben Lindsly, III, is back in Washington with the Petroleum Administrative Board. His address, which he will not guarantee as too permanent under existing alphabetical conditions, is "The Broadmoor." — FRED W. GOLDTHWAIT, Secretary, 175 High Street, Boston, Mass. SIDNEY T. STRICKLAND, Assistant Secretary, 209 Washington Street, Boston, Mass.

1907

What was generally agreed to be one of the most delightful gatherings members of our Class have ever attended, began in the attractive Silver Room at Walker Memorial, Cambridge, on January 8, when 23 men sat down to an appetizing dinner provided by the Technology dining service. Following the salad course Lawrie Allen, who presided, called on the Class Secretary to bring greetings from several of the men who were unable to be present and to answer questions as best he could regarding the activities of various classmates.

In 1937 we shall hold our 30th reunion and it was the wish of those present that we return to the place where we enjoyed the 25th anniversary celebration — the Oyster Harbors Club at Osterville, Mass. It was agreed that Class President Macomber should appoint a committee of five men to have charge of this affair. Harold Wonson, Class Treasurer, spoke

of the fact that we have only about \$16 in the class treasury and it was agreed that he send out requests to the men of the Class asking for donations, inasmuch as there is always the need of some money for printing, postage, and incidentals, and this will be especially true during the next 16 months in providing for publicity for the 30th reunion.

Lawrie Allen suggested that a telegram be sent to Clarence Howe of our Class, now minister of railways and canals for Canada. The following message went forward: "The undersigned members of 1907 gathered at a dinner meeting at Walker Memorial send you greetings. We extend our congratulations for the honors which have come to you and wish you every success." The names of all men present were affixed. In response to this, the following letter dated January 13 was received by the Secretary: "I duly received your wire, dated January 9, signed by yourself and a number of my old friends who evidently attended the class dinner to which I was invited. Of course, I was delighted with the sentiments expressed in the wire, but, more important, with the kind thought of myself that prompted the sending of it. I hope to be able to foregather with the Class some time in the not too distant future."

A message of greeting to Frank MacGregor, who is in Buenos Aires, Argentina, was passed around the table, signed by all the men, and mailed on that same evening. Then Lawrie Allen called on Jim Barker, who is vice-president and treasurer of Sears, Roebuck and Company, and who was in Cambridge for the Technology Corporation meeting on January 8. Jim told us in his genial, informal, and modest way of his experiences and professional and business activities since 1907, including the time at Technology as assistant and instructor, his early consulting engineering work, his joining the staff of the First National Bank of Boston, his years from 1920 to 1928 as one of the two managers of this bank's branch at Buenos Aires, his invitation to become an executive with Sears, Roebuck and Company, his work there in developing the 440 retail stores of the company, and his promotion to financial vice-president. His observations and opinions on present business and political problems afforded opportunity for questions, comments, and discussion by nearly all of those present as we sat around the table.

Those attending were Bob Albro, Charlie Allen, Lawrie Allen, Dick Ashenden, Henry Alvord, Jim Barker, Clinton Barker, Frederic Banfield, George Crane, Allan Cullimore, Ralph Hudson, Ed Lee, Alexander Macomber, Milton MacGregor, Bryant Nichols, O. L. Peabody, Ed Prouty, Kelly Richards, Don Robbins, Gilbert Small, Ed Squire, Oscar Starkweather, and Harold Wonson. It was especially fine to have Albro, Ashenden, Clinton Barker, Cullimore, and Banfield with us, because they were not of the "old guard" who always attend our class gatherings, and we hope that in the future they will always be able to

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1907 Continued

join in 1907 festivities. Banfield has been in Saco, Maine, for many years, but since July, 1935, has been works manager of the Whitin Machine Works at Whitinsville, Mass. Cullimore most emphatically showed his interest in class affairs and made history in the matter of transportation method to a class dinner — he flew from Newark, N. J., where he is president of Newark Engineering College, just so that he could attend this dinner. Leaving Newark at 3:15 P.M., he arrived at the Hotel Statler, Boston, soon after 5:00 o'clock, was at our dinner from 6:30 to 10:00 P.M., and returned to Newark the next morning — what an attendance we should have at class gatherings if other men should follow Cullimore's example!

Bill Coffin, Boston architect, expected to be with us, but was detained. His oldest daughter, Ruth, was graduated from Vassar in 1935, and is teaching English and dramatic production at the Beaver Country Day School. His second daughter, Barbara, is a sophomore at Bennington College.

Ed Moreland especially regretted his inability to be present, now that he is president of the Alumni Association, but he had to attend a dinner meeting in connection with the Electrical Engineering Department at Tech, of which he is the head. Gilbert Small's older son is a sophomore at Dartmouth, and Gilbert says he is "badly bitten by the Ski Bug." Phil Walker's older son (M.I.T. '34) is with the United Mutual Insurance Company at Chicago, and his other son (Bates '35) is chemist with Libby's Mill, Lewiston, Maine. Harold Wonson's son, Hal, holds letters in three sports at Tabor Academy, a prep school at Marion, Mass. An article in the Boston *Herald* of January 8 tells of his holding the private-school record for the 1,000-yard run. Harold himself, as president of the New England Boot and Shoe Association, gave an address at a meeting of the New England Council of Shoe Buyers in Boston on January 14.

In replying to the notices of the class dinner previously referred to, Bert Bancroft, S. J. Egan, Harold Farrington, Hud Hastings, Walter Kirby, Harry Moody, Howard Palmer, Phelps Swett, and Phil Walker, sent greetings to all members of the Class.

William H. Martin is Federal emergency administrator of public works at 2 Lafayette Street, New York City. An address for Walter Hoover who has been lost to the Secretary for years has come from the Alumni Office — Suite 867, Mills Building, San Francisco, Calif.

And now, in closing these notes, we are inclined to reproduce an article from a December edition of a Spokane, Wash., newspaper, which refers to our energetic Carl Trauerman. We hope it will interest and amuse you, as it did us: "The numerous membership of Montana's engineering societies may find themselves interested in the address delivered by Carl J. Trauerman of Butte before the Northeast Mining Association at a smoker meeting in Spokane during the past week. It develops that Mr. Trauerman, mining engi-

neer, stock broker, and champion of militant democracy, has now turned humorist and at the expense of his own profession. In an address that out-Nyes Bill Nye at his best and which the modest Butte man declared he has cribbed in part from a gas magazine, he commented on the language, habits, and 'previous conditions of servitude' of the 'yellow legs branch of engineering' in particular, and the profession in general, in a manner that would be calculated to lift the hackles on the neck of an Airedale that had been subjected to a similar verbal dressing down. The report which carries the Trauerman address states that 'following his address Mr. Trauerman was reported as resting easy,' which is thought to imply that engineers are more tolerant than Airedales.

"The Trauerman address was, in part as follows: 'After the Lord and the predecessors of John D. Rockefeller made and controlled the earth in six days and before starting for Sunday School and their weekly pinochle game on Sunday, they turned the plans, specifications, and accrued debts over to an engineer, which, by the way, is the first record we can find of a Gentile. And since that day, engineers, although paid on a six-day basis, have continued to work seven days and nearly as many nights a week. You can always identify an engineer by his trusting look and the expression on his face when he wants to borrow your Brunton compass and drafting tools. Don't lend them to him, as the only NRA an engineer ever knew meant, "Never Return Anything."

"Through the ages the engineer has continued to function, until now our technical schools — and machinery houses — yearly turn upward of 10,000 young and old hopefuls onto the American public, each armed with a slide rule, two handbooks, the latest edition of Hoyle's "Rules of Etiquette on the Plane Table," "How to Make a Hole in One's Bank Account," "Latest Cocktail Recipes," and other standard engineering books. In the first few years after graduation they accumulate the swelled head, plenty of good figures, both blond and brunette, a silver flask, which most of the time is empty, and a wonderful gift of gab. Some of these souls immediately are saved by becoming bond salesmen, insurance agents, real estate agents, and bartenders. Others work hard at their profession, ultimately becoming advertising managers, accountants, and salesmen. Those who inherit money often become managing executives. We have a record of one who became such a wonderful executive that he was appointed chief executor at one of our foremost penitentiaries. But, alas, some fail and become assistant chief engineers, chief engineers, and, if complete failures, become consulting engineers.

"Our government has had three noted engineers who gained fame by ceasing their profession and becoming public servants — George Washington, Herbert Hoover, and Jim Farley. The latter built the greatest political machine in history

for the 1936 campaign, while the efficiency experts were asleep, and it cost only \$5,000,000,000.

"There are many kinds of engineers: First, there is the electrical engineer, as personified by Benjamin Franklin. He got tight one morning and when he tried to open his front door his door key got mixed up with the tail of a kite. About that time he dropped one loaf of bread and his wife clouted him over the bean with the other — and what he saw, or felt, may or may not have been electricity. Then there is the mechanical engineer, as personified by the man who invented the jig-saw puzzle. — The civil engineer is the Chesterfield of them all. No matter how hard he works or how sore he gets at damn-fool orders that the boss gives him, he always is civil. — The first chemical engineer of whom we have any record is Lot's wife, the female who invented the hard look. She didn't need any test tubes or other appliances to convert a human being into a pillar of salt. — No matter how we may censure the structural engineer, we must give him credit for a lot. After handling a few bridge contracts he reversed the order of his words and founded "contract bridge," a game which has caused us to lose our shirts, pants, the skin off our shins, our tempers, and a number of wives. — The stock market engineer figures that he got his ribbing experience from Adam and Eve in the Garden of Eden, and he surely made us see snakes and start apple stands in the fall of 1929. — Last but not least is the mining engineer, whose specialty is the depletion of ore deposits and bank deposits. He beats the surgeon, for he can cut out all the veins in the world and his mine will not bleed to death, although he has not been so successful with some of his stockholders.

"Well, enough of this," says the little beaver. Says he: "I am the original and best engineer in the world, and as for your technical trained men, I wouldn't give a (beaver's) damn for any of them." — BRYANT NICHOLS, *Secretary*, 126 Charles Street, Auburndale, Mass. HAROLD S. WONSON, *Assistant Secretary*, Commonwealth Shoe and Leather Company, Whitman, Mass.

1909

Subscriptions to the Class of 1909 Scholarship Fund are still coming in, the total now amounting to about \$25,000, with some members still to be heard from. Will you join us now?

News this month seems to be pretty much about our daughters: Elizabeth Wallis, who was graduated from Smith College in 1935, is now doing graduate work in bacteriology at the Harvard Medical School. — Mr. and Mrs. John A. Willard have announced the engagement of their daughter, Virginia, to Nathan H. Wentworth, of Paris, France. Virginia was graduated from Vassar College with the Class of 1932, and her fiancé is a graduate of Dartmouth College. He has been engaged in business in Paris for the past year and a half. — Professor and Mrs. William H. Jones also announced the en-

1909 Continued

gagement of their daughter, Barbara Elizabeth Jones, to Edward F. Caldwell of West Medford. Barbara is a junior at Simmons College, and Mr. Caldwell is a graduate of Harvard College and of the Harvard Graduate School of Business Administration.

News has just reached us of the death on December 22 of Shirley Mace, who was living in Marblehead. — CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass. *Assistant Secretaries*: PAUL M. WISWALL, MAURICE R. SCHARFF, New York; GEORGE E. WALLIS, Chicago.

1910

Your Secretary is grieved to report the death of our classmate, Irving Kane, who passed away on November 20. The following memoir has been prepared by Mr. Langdon Pearse and Mr. Leslie C. Whittemore of the American Society of Civil Engineers: "Irving Patterson Kane was born in Gittings, Md., on January 2, 1886, the son of James G. Kane and Leonore Patterson Kane. His early life was spent in Gittings, a suburb of Baltimore. He attended the public schools of Baltimore County and in 1903 entered St. John's College at Annapolis, Md., from which he was graduated in 1907, with the degree of Bachelor of Science. He then entered the M.I.T. and was graduated in 1910 with the degree of Bachelor of Science in sanitary engineering.

"After leaving the Institute, Mr. Kane was employed for a short time with the Baltimore and Ohio Railroad and the Lehigh Valley Railroad. In May, 1912, he entered the service of the Baltimore Sewerage Commission and was engaged until February, 1915, on designs, estimates, and specifications, particularly those for intercepting-sewer work in Baltimore. From February to December, 1915, he served as assistant district engineer on the International Joint Commission under Professor Earle B. Phelps '99, making preliminary layouts, with cost estimates, for intercepting-sewer systems for Detroit and other cities and towns on the Detroit and St. Clair Rivers, as well as treatment-plant studies. This work was done in connection with the studies of remedies for the pollution of boundary waters, and the results of the investigation were published in the report made by Professor Phelps to the International Joint Commission.

"In 1916 and 1917 Mr. Kane served as assistant engineer with the Seaboard Air Line Railroad, and then with the Western Maryland Railroad. In May, 1917, he entered the United States Army, serving as captain and then as major and commanding officer, Company A, 305th Engineers, and also later with the 45th Engineers, serving for one-and-one-sixth years in France. He was mustered out in August, 1919. From November, 1919, continuously until the time of his death, he was employed first as assistant engineer and then as engineer of treatment-plant design with the Sanitary District of Chicago. The major part of the time he was in immediate charge of design and

plans of treatment plants, in particular, the Calumet, North Side, West Side, and Southwest plants, as well as the Northbrook, Glenview, and Morton Grove plants, exclusive of electrical, mechanical, and architectural work. In this connection, he was also interested in the design of several intercepting sewers. At the time of the litigation between the Lake States and the hearings before the master, the Honorable Charles Evans Hughes, Mr. Kane was in charge of preparing general studies and estimates for the entire sewage-treatment program of the Sanitary District, and also with plans and estimates for the Engineering Board of Review. Mr. Kane was active in developing various special features of the plants, in particular a machine for stripping sludge on a large scale from air drying beds. A new type of bed was developed, in units of 80 feet wide and 1,000 feet long.

"Mr. Kane was not a writer, but was intensely interested in the details of design and the development of sound data. His chief interest was in his work, in which he was very thorough and painstaking. One of his principal hobbies was financial research and in such he took a lively interest in economics and various current problems. He had a keen mind and thought problems through with good judgment.

"Never having married and living with his bachelor brother in Chicago during the last 15 years of his life, Mr. Kane took a deep interest in his mother's welfare, spending his vacations at the family estate near Baltimore, at Gittings. Although quiet and reserved, and not socially inclined, Mr. Kane was well liked by his associates. He was always interested in the outside activities of the younger men in the office, although not actively participating in them.

"During the last eight years of his life, Mr. Kane suffered from a very serious eye ailment which at times threatened to destroy his sight completely. Notwithstanding this affliction, he applied himself energetically and patiently to his work and few even of his most intimate associates knew the extent of the handicap under which he was laboring. His general health began to fail during 1935. On October 31, he applied for leave of absence and entered the Presbyterian Hospital in order to recuperate and endeavor to restore his health. Unfortunately, it proved too late. He died very suddenly on the evening of November 20.

"Mr. Kane was elected an associate member of the American Society of Civil Engineers on December 6, 1915, and became a member in 1928."

It has been noted in the Boston *Sunday Herald* of December 29, that John M. Gray, Boston architect, has been recommended by Governor Curley to the board of treasurers of the Soldiers' Home of Massachusetts, for appointment as commandant. — At Christmas time we heard from Louis O. French of Milwaukee that his oldest daughter will be graduated from Vassar this June, his second daughter is a junior at the Milwaukee Downer

College, his third daughter is a senior in high school, and the youngest is a junior in high school.

The following change of address has been noted: Ridgway M. Gillis, State of California, Division of Highways, Box 1353, Fresno, Calif. — HERBERT S. CLEVELERDON, *Secretary*, 46 Cornhill, Boston, Mass.

1911

Unusual for me, this last Sunday in January finds me at home convalescing from an attack of intestinal gripe which early last week had me in Memorial Hospital. The doctor feared complications but this difficulty now is apparently successfully conquered. So, what of the reunion, June 5 to 8?

Well, sir, Roger Loud and his committee — Obie Clark, Don Stevens, O. W. Stewart, Emmons Whitcomb, plus Denie and Jack — are diligently working up details, and an initial indication, in the form of notes accompanying class dues, shows that in addition to the seven committee members just listed the following men are planning to attend: Marshall Comstock, Lloyd Cooley, Minot Dennett, Henry Dolliver, Norm Duffett, Carl Ell, Milt Hayman, Charlie Linehan, Ray Lord, Morell Mackenzie, Roy MacPherson, Bob Mather, Bob Morse, Carl Richmond, Nat Seeley, Harry Tisdale, Ted Van Tassel, Louis Wetmore, Pete White, Gordon Wilkes, Bunnie Wilson, Aleck Yereance, and Heinie Zimmerman. Quite a nucleus around which to build up a banner attendance, eh wot? Yowsah!!

As part of a student counsel plan for sophomores in Course II, talks are to be given by prominent engineers, and the first of these for this season was given by our own Monk deFlorez, who pointed to the need of applied ingenuity as a requisite factor in engineering, illustrating with many examples taken from his own successful career. Monk has a son, Peter, in Tech, and in mid January the latter and his fraternity brother, Cornelius Roosevelt, grandson of the late T. R., escaped prosecution on indictments charging them with peppering motorists with an air pistol from the window of their fraternity house — the old Number 6 Club of Louisburg Square now on Memorial Drive — November 20. During the trial of the youthful pair, Monk appeared in their defense and had a police officer fire the air pistol point-blank at his bare chest to show no wounds would result. It seems that the boys were amusing themselves one afternoon peppering passing motorists and had the misfortune to pepper one auto containing two Metropolitan District police officers and a Boston motorist. In his nol-prossing motion the District Attorney finally said the youths were "actuated by a spirit of fun and playfulness" with no criminal animus.

An announcement has reached us that the United Air Lines has appointed E. J. Whitcomb as New England district traffic manager. Emmons is relinquishing his other travel activities to devote his

1911 Continued

entire time to this work at his office, 430 Stuart Street, Boston. He and Miss Iris Beals will be available for mapping out itineraries and making reservations on air travel to any point in the United States. The United Air Lines advertises the shortest, fastest route from the East to most Pacific Coast cities. One can leave Boston at 2:30 P.M. and be in Los Angeles, San Francisco, Oakland, Portland, or Seattle for morning business.

Don Frazier has been elected president of the Technology Club of Virginia. He has a successful insurance business in Richmond, you know. — Stan Hartshorn has been reelected president of the city council in his native city, Gardner, Mass. — *Transit Journal News* for December 21 has an intimate snap of Bancroft Hill, who, as we told you in last October's notes, is now executive vice-president of the Baltimore Transit Company.

Clayton Robinson, I, President of Firestone Service Stores in Brockton, Mass., was here in Worcester with his son, Elliott, who will be graduated from Course I at the Institute this year. The boy, 21, is anxious to follow civil engineering and after talking with Clayton and Elliott, I directed them to Hal Robinson's near here and they had a nice chat there. Any classmate who has or knows of an opening for a young civil engineer, available in June, please get in touch with the Robinsons, *père et fils*, at Brockton. — When sending his class dues Nat Seeley of Vernon C. Brown and Company, 71 Broadway, New York City, opined: "No news, Dennie, until we kick F.D.R. out — then a lot of us can come out of our shells."

True to a promise at a recent class dinner Obie Clark, who manufactures concrete products at his Nelson Cement Stone company in East Braintree, wrote recently saying: "My company has secured one good job right now. We are going to make the piles and deck slabs for an extension to Pier Number 3 for the city of New Bedford. This job is notable, principally for the large size of the piles. They run up to 65 feet long and weigh up to 12½ tons. We plan to make them at our plant and truck them 50 miles over the road to New Bedford."

"I have seen Ernest Battya a few times recently, as he has been appointed architect for a \$90,000 municipal garage in Quincy and I have been trying to get some of my material into the building. Ernest and his wife, as well as Alma and I, are looking forward to Plymouth in June."

I had a newsy letter from Henry DOLLIVER, who does much traveling in his work as valuation engineer for Jackson and Moreland of Boston. This one came from Allentown, Pa: "Hope to be around Boston in June for the reunion, but as I am away about half the time can never tell where I'll be. My older daughter, Betty, entered Mills College, Oakland, Calif., last year, but decided to transfer to Massachusetts State this year to get the course she wants: entomology and botany. The younger, June, is in the sixth

grade in Belmont. A good part of my time during the last six years has been in the Carolinas and I can say 'you-all' like a native. I like bowling particularly and have played a little golf. My wife is still taking care of the family and the house and thinks I smoke too much."

Milt Hayman's wife sent me his dues check and said she and Milt are looking forward to June both for the reunion and their own 22d wedding anniversary. Milt practices architecture in Hartford, Conn., and Mrs. Hayman says there's no news, except business is picking up quite a lot and that *is* news. — Ted Van Tassel writes from Peoria, Ill., that Marc Grossmann was there recently for an address before the American Society for Metals, so he, Lloyd Cooley, and Ted had dinner at the University Club and then Lloyd and Ted took Marc through the Hiram Walker Distillery. Ted says Marc was amazed at the size, cleanliness, and control methods at the World's Largest and Finest Distillery (adv.). In closing Ted says he is already planning a trip East to include the reunion. — Along with his dues Bill Warner wrote from Nowata, Okla.: "My family is rapidly growing up, with two older boys in college: one, at University of Missouri, one, at University of Colorado, both Betas; the youngest, at the local high school. Mrs. Warner was away from home for several months in 1935 due to illness, but has returned home and is improving. The oil business is much improved in a general way and it looks as though 1936 will be the best year since 1929." — Heinie Zimmerman, Vice-President, United States Steel, says: "As to the Silver Anniversary, the idea of a visit to Manomet Point appeals to the Zimmermans. We spent a vacation there about the year 1920, when you were just a boy. It's a fine place, although the water, admittedly, is cold."

The place? Mayflower Hotel, Manomet Point, Plymouth, Mass. The time? Friday, June 5, to Monday, June 8. We hope you *all* can be there! — ORVILLE B. DENISON, *Secretary*, Hotel Bancroft, Worcester, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

1914

As class notes must be prepared ahead of the dead-line date for late news flashes, be sure to read the notice regarding Alumni Day. Plans are now sufficiently advanced to make it possible to say that it will be an event well worth returning for. It is expected that the events of this year will be the basis of a comprehensive plan to have Technology render a distinct service to its Alumni through the Alumni Day program. It will not be an all top-hat program either.

Captain Alden H. Waitt, Chemical Warfare Service, has been transferred to the Army Command and General Staff School at Fort Leavenworth. Alden writes that he is studying harder than he ever did at the Institute — a fact which no one can deny. He feels, however, that it is just as well because he never really wanted to be a chemist anyway.

THE TECHNOLOGY REVIEW

Jim Reber, who is vice-president of the Columbian Rope Company, has just returned to his office at Auburn, N. Y., from a six weeks' trip to California. — R. F. Zecha has joined the long list of New England textile manufacturers who have been forced to abandon their properties. Zecha has been operating the Prospect Weaving Company, at Pawtucket, R. I., and, with the long series of adverse factors affecting the rayon situation in the North, has been forced to the conclusion that the future does not justify further operations at a continued deficit.

Charlie Fiske has arranged for the annual class dinner in New York on February 6. A big turn-out is indicated, and Charlie has a new comedy dialogue all rehearsed. — HAROLD B. RICHMOND, *Secretary*, 30 State Street, Cambridge, Mass. CHARLES F. FISKE, *Assistant Secretary*, 1775 Broadway, New York, N. Y.

1915

Extra! Latest news flash! Here it is! He's gone and done it. Now, there are only a few of us left. Who would ever have thought it? Memories of that old Course I gang and those summer camp parties! On January 3 in this corner the blushing groom, as red as his famous red hair, the one and only Pirate George Rooney; in this corner, Miss Ethel Umlah. In the wedding ring they are champions. To Mr. and Mrs. George T. Rooney the best of everything in life the Class can wish you. Everybody knows and likes George and we are all very happy for him and Ethel. I feel sure that everyone remembering George as one of our outstandingly loyal, active, and sincere classmates will join with me in dedicating this month's notes to George and his bride as an expression of our heartiest feelings for them. — AZEL W. MACK, *Secretary*, 72 Charles Street, Malden, Mass.

1916

George Sutherland, who is now general superintendent of the New York and Queens Electric Light and Power Company, recently engaged in a debate with Morris P. Davidson, commissioner of the department of water supply, Gas and Electric of New York City. The subject of the debate was: "Should the City of New York Own and Operate a Municipal Power Plant." We were unable to learn which side won, but we are sure that George was able to maintain his side of the argument.

Dr. Paul H. Duff and his family, consisting of his wife and seven children, have just returned to Massachusetts from Texas where they have lived for the past ten years. In Dallas Dr. Duff achieved notable success, having been honored with some of the most important positions in the medical profession in that city. At the City-County Hospital, after serving three years as assistant visiting surgeon, he was made visiting surgeon, which post he has held for seven years. St. Paul's, the largest hospital in Dallas, made him president of the general staff after he had served in many other execu-

1916 Continued

tive and administrative capacities, including chairman of the surgical section and instructor in surgical technique. Dr. Duff was visiting surgeon to the Freeman Memorial Clinic for children, also member of the surgical staffs of the Dallas Methodist Hospital and the Baylor University Hospital, as well as a member of the courtesy staff of the Doctors' Hospital in New York City. He was a member of the board of directors of the Dallas Child Guidance Clinic and served for four years on the Advisory Health Council of the city of Dallas.

Remember our Twentieth Reunion is scheduled for this coming June. Start making plans for your vacation now so that you will be able to attend. — HENRY B. SHEPARD, *Secretary*, 269 Highland Street, West Newton, Mass. CHARLES W. LOOMIS, *Assistant Secretary*, Bemis Bro. Bag Company, Memphis, Tenn.

1917

A wide variety of location of '17 men is indicated by the change of address slips sent to the Secretary from the Alumni Office. For instance, we find that Sherry O'Brien, X, is now located at 210 East Pearson Street, Chicago. We also find that Louis S. Goldberg, after learning to protect himself against shocks in Course XIV, is with the Mayer Corset Shoppe, 202 Westminster Street, Providence, where undoubtedly he will be glad to see visiting classmates.

We made a careful investigation of the personal status and condition of one G. R. Stevens who has recently contributed to these columns and about whom many inquiries are made. The report from headquarters is as follows: heart, still big; pulse, rapid at times; weight, marital status, family status, unchanged; golf, slight improvement; business condition, much improved. — The first and last items have been certified by subsequent independent investigation. The others should all be set off by modest question marks. — RAYMOND S. STEVENS, *Secretary*, 30 Charles River Road, Cambridge, Mass.

1918

A movement is now burgeoning to flower in order that a portrait of Dr. Harry Tyler may be painted and hung in these as yet ivyless halls — a movement which finds a mighty and sympathetic response in this old heart for reasons herewith related. It was back in the fall of 1915 that we tried hard to juggle the schedule so that our calculus (such as it was) could be imbibed from . . . well almost anybody except the supposed chill wind known as the head of the mathematics department. All attempts were a perverse mockery. Well, he gave the class a quiz every Wednesday morning and there inevitably came that frightening occasion when the mysteries of solution were beyond our most fantastic speculation. So we sat back to watch Ed McNally — that genius who prostituted his mathematical art by becoming assistant general manager of the Barbasol Company instead of a moldy old

pedagogue. Ed was making famous progress as we watched, mouth agape in the most approved intellectually unbuttoned style. "Magoun," came a voice like a roll of drums, "Have you finished?" and there was Harry Tyler looking over the top of his glasses. We slipped out like a whipped dog. But life was not worth living any more. We had appeared so guilty and were actually entirely innocent of anything except curiosity. So we cut a class and trudged unwillingly and slow to the professor's office to explain. "Why of course I know you had no intention of cheating," he said, glowing as much as one of his colossal dignity ever could glow, "but I just wanted you to remember that it is not enough for Caesar's wife to be virtuous; she must also have the appearance of virtue." Long ago we forgot the last minute molecule of math that Dr. Tyler taught us, but we will never forget: (1) the somber reflections engendered by that experience; (2) the understanding of human nature, devoid of all itching skepticism, with which he handled the entire incident. So we shall contribute generously to the portrait fund and wish you the same. Send checks to Professor A. H. Gill '84 or to Horace Ford.

Now to make this column a lofty example of unity, having begun with a tale woven around one kind of censorship, let us conclude with censorship of another line. Herbert McNary deserted engineering to become a free-lance writer and, as chronicled in these notes about a year ago, finally achieved the powerful prerogatives accorded the city censor of Boston whose duties are always to judge the morality of such dangerous persons as Eugene O'Neill but never to lift an eyebrow at the performances held in that theater which is called old. So censor McNary, sniffing quarry in a play bearing so benign and bewhiskered a title as "The Children's Hour," promptly banned the same. Whereupon, with ill consideration for the probabilities of Technology men in general and free-lance writers in particular, the producer of the play, with equal punctuality, instituted a suit against McNary for \$250,000. Should the courts move with their usual breathless and glacial rapidity, expect a sequel in about two years.

Footnote: The play deals with the extent to which malicious gossip, circulated by a pupil, ruined the lives of two head mistresses in a boarding school. No, we haven't seen it. — F. ALEXANDER MAGOUN, *Secretary*, Room 4-136, M.I.T., Cambridge, Mass. GRETCHEN A. PALMER, *Assistant Secretary*, The Thomas School, The Wilson Road, Rowayton, Conn.

1920

In case any of you have noticed the absence of these notes from the last issue or two, let me assure you that I would have had some notes in there if there had been any. Either the members of the Class of 1920 lead singularly uneventful lives, are singularly modest, or, as I am inclined to believe, are singularly indifferent to the struggles of their poor old

Secretary whose most pressing 1936 problem is whether he is going to lose all his hair before it turns white. Once again, how about a little coöperation?

Phil Young is with the Standard Oil Development Company, 26 Broadway, New York City. Ed VanDeusen's new address is 530 West 6th Street, Los Angeles, Calif. Walt Sherbrooke is now with the Adams Engineering Company, 55 West 42d Street, New York City. Norman Scudder, VI, is in Detroit, address 31 Woodland Avenue. Bob Pender has moved to 9 King's Beach Road, Lynn, Mass. John McLeod is in Glendale, Calif. Another who has settled in the Sunny State is Dick Lyon of Lyon and Lyon, 811 West 7th Street, Los Angeles. Fred Bocher has left Charleston, W. Va., and is now in Elizabeth, N. J., address 827 Union Avenue. Gerry Tattersfield is in Philadelphia, address 338 East Wadsworth Avenue, Mount Airy. Jim Scott is a member of Scott and Stringfellow, Box 1575, Richmond, Va. Ken Roman is now located at 50 Marshall Street, Brookline, Mass. Another Californian is Fred Pelton, XIV. He is with the Metro Goldwyn Mayer Studios at Culver City. Leland Gilliatt has moved from Springfield to Cape Cottage, Maine. Don Ferris is in Detroit, address 700 Seward Avenue.

I recently learned of the death of Alfred Viano, X, on November 19. He was living in West Medford.

If any of you happen to be in Boston on Fridays and in the vicinity of Patten's Restaurant at noontime, you are quite likely to find Jim Gibson, Buck Clark, and Perk Bugbee there, as they make a practice of lunching together on Fridays when they are all three in town. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

1921

The Fifteenth Reunion Committee has attacked the job of preparing for our June jamboree with such enthusiasm that the complete details of the program and other special arrangements will be on their way to all of you by mail by the time this issue of *The Review* is in your hands. As announced previously in these columns, the celebration is scheduled to start on Friday night, June 5, and continue through the following Saturday and Sunday, giving all who attend an opportunity to visit the Institute on Monday, June 8, for the annual Alumni Day events. Following the recommendations of the Alumni Council, our Committee has selected a location nearer to Boston than was the case on our 10th anniversary.

Further advance information from the Committee indicates that the party will be stag and that the program includes plenty of golf, tennis, swimming, or whatever you will, as well as ample opportunity for good old-fashioned visits with each other to renew the bonds of friendship which bring us together every five years. Those who attended the splendid 1931 party can look forward to an even "bigger and better" get-together, though the Committee is going to find

Plan to attend Alumni Day at M.I.T. on June 8, 1936

1921 Continued

itself hard put to excel the famous Tenth. For those who have not been able to meet with the Class, picture your chance for several days of sport, or complete relaxation if you prefer, spent at a well-equipped shore resort in the company of your old buddies. So put the date on your calendar pad now and make it your duty to be present, not only because you owe it to the rest of the Class but also because you owe it to yourself to get that regular vacation you have been promising yourself during the tough years. Of course, transportation will be provided so you can get to Cambridge to take part in the Alumni Day festivities. Let's all give the Reunion Committee the big hand they deserve for their hard work by answering their notice promptly with "I'll be there!"

Our note of a few months ago spurred S. Murray Jones to write Ray his latest news, announcing the arrival of Malcolm Murray Jones on October 24 and promising to bring a plentiful supply of the young hopeful's pictures to our Fine Fifteenth. Sam also has a daughter, aged two and a half. He makes his home at 3 Richbell Road, Scarsdale, N. Y., and since he does not contradict the report we received from Pip Coffin, we assume Sam is still rate engineer for Edward J. Cheney, 61 Broadway.

It is with deep sorrow that we record the news of the passing on January 6 of Dr. Harry Eastman Hitchcock, VII, of Woodbridge, Conn., who received his Certificate of Public Health with us. On behalf of the Class, we extend to his dear ones our sincerest sympathy in their great loss.

Just to remind you of that New Year's resolution to write to Ray or your scribe to give us your news — well, why not now? — RAYMOND A. ST. LAURENT, *Secretary*, Rogers Paper Manufacturing Company, Manchester, Conn. CAROLE A. CLARKE, *Assistant Secretary*, Acousticon Division of Dictograph Products Company, Inc., 580 Fifth Avenue, New York, N. Y.

1923

Lem Tremaine, writing for Pete Pennybacker, reports a meeting of the New York 1923 group on December 11 with dinner at the Technology Club followed by a visit to the Hayden Planetarium which was very interesting. In addition to himself, Lem reports as being present: Walt Marder, Al Pyle, Bill Godbout, Rod Goetchius, P. C. Smith, Johnny Sands, Miles Pennybacker, Dave Kaufman, and Dick Kleinberger. The business of moment was a decision to have the 1923 Club officers hold their positions for two years at a time which leaves Walt Marder as president for another year. It was also decided to hold their annual dinner dance around the middle or latter part of February. Miles Pennybacker was appointed general chairman of a committee to run the affair.

I have the following interesting letter from Ernest L. Akerley: "After less than a year at Wright Field in Dayton, where I was doing some very interesting work as

a civilian in the Army Air Corps connected with their experimental station, I worked with the Hobart Manufacturing Company in Troy, Ohio, for about a year and a half, where I met up with a whole group of Technology men in the company. Beginning with January, 1930, I represented them in Detroit in the interest of their automatic machinery for processing parts in quantity production. If you remember those days, there is no need to tell you more of the results I accomplished. Therefore, in January, 1931, I returned to Massachusetts to run a small factory. After a few months, this was sold. In June of that year I started a small business which was moved to Winsted, Conn., in the fall of 1933. On November 7, 1933, having bought out my original business partner, I added a new partner in the person of Evelyn Packard of Ashland, N. H., who was the lucky girl I took to many of the Technology functions and parties as far back as 1919. She is now secretary of our company, where her artistic talents, cultivated at Boston School of Fine Arts and Crafts and the Art Students League of New York, are put to work on our various publications in the interests of dogs, dog grooming equipment, and various accessories for dogs. So you see, we are going to the dogs together.

"We have a wire-haired fox terrier of exceptional blood lines who serves as our experimental model and who will be the nucleus of a breeding program which we expect to start in the spring. We expect to raise wire-haired fox terriers, Welsh terriers, and German shepherds."

Bobbie Burns (Doctor Burns to you) probably now holds the long time record for slow response to a note from the Secretary. After two years a Christmas card from Bobbie and Mrs. Burns came from Swansea, South Wales, with the following report, no less welcome because tardy: "I have been studying in England and last July was awarded the Ph.D. degree in engineering at London University. I also received the D.I.C. (Diploma of Membership in Imperial College of Science and Technology). These degrees will not be conferred until May, at the graduation exercises, but in the meantime I have a job as resident engineer in charge of the construction of a reservoir and water supply system for the County Borough of Swansea. They supply me with a car to get around the job which extends for about ten miles over hilly country. Conditions are still pretty bad in South Wales, although business is better in England."

Paul J. Culhane, has been transferred to Washington, D. C., where he has supervision of the patent researches made for E. I. duPont de Nemours and Company of Wilmington, Del. — Also in Washington is Arthur D. Smith, Jr., as manager of the department of manufacture, Chamber of Commerce of the United States.

Many of you saw pictures of the flood in December, when run-off water from a torrential rain piled up in Buffalo Bayou and swept up into the heart of the busi-

ness district of Houston, Texas. The flood waters put the city's principal pumping station out of service and for two days the city was woefully short of water to fight fires. Where the flood reached there was of course plenty and some of this was actually used to fight the only bad fire which threatened during that period. All of which is by way of explaining why your Secretary is writing these notes from Houston, where he is putting it to local citizens that the combination of a vulnerable and inadequate water system, wooden-shingle roofs, and a hodge-podge administration of the fire department is no way to keep this fine and rapidly growing city from being the next to rest on the great American Ash Heap. — HORATIO L. BOND, *Secretary*, 195 Elm Street, Braintree, Mass. JAMES A. PENNYPACKER, *Assistant Secretary*, Room 661, 11 Broadway, New York, N. Y.

1924

Bill Correale "headlines" the news this month with an appointment as deputy commissioner of the Department of Water Supply, Gas and Electricity for Queens County, N. Y. In the words of the *Jackson Heights Record*: "It was the first time in the history of Queens that a full-fledged, recognized engineer received the appointment, despite the fact that the duties are unreservedly those for an engineer." The investment of the department over which Bill will have charge is in excess of \$550,000,000, says the *Record*.

Malcolm MacNaught, also a Jackson Heights commuter, has likewise transferred his talents to a new job recently, leaving the Bryant Electric Company, with which he has been associated for several years, to join the McGraw-Hill Company. He will sell advertising for them.

A note from Professor Locke '96 tells us that Don Kennedy has left the American Smelting and Refining Company, and following a stay in El Paso, Texas, has returned to Mexico to work for the Cia Minera de Maguarichic at a small town called La Esperanza, Chihuahua. He will be joined there by his family as soon as a house can be erected for them.

Matt Nash was in Boston for the Christmas holidays, and during a very brief chat the Secretary learned that Matt is still in the utility business in Poughkeepsie, apparently on a job that agrees with him. He reported that Marshall Waterman is a fellow townsman, likewise in the utility field. — FRANCIS A. BARRETT, *General Secretary*, 50 Oliver Street, Boston, Mass.

1926

Plans are shaping up for our Tenth Reunion scheduled for June 6 and 7. We will have a luncheon at Walker Memorial at 12 o'clock Saturday at which we hope to have present some of the important figures at the Institute. Immediately after this luncheon we will depart by bus for the Toy Town Tavern at Winchendon, Mass., where the main show will be staged.

1926 Continued

A variety of reasons dictated the selection of the Toy Town Tavern. Its facilities are superb; it has a sports house, swimming pool, tennis courts, and a golf course. It is one of the most delightful and distinctive New England inns; its *cuisine* is recognized as superlative; it has a setting of natural beauty that appeals to those who desire something more than the casualness and mustiness of the average hotel resort. Other Technology classes that have gone to the Toy Town Tavern for their reunions have been enthusiastic, and we have every reason to believe that our group has found an ideal place for celebrating one of our most important anniversaries.

The committee hopes that the blanket charge for the reunion will not exceed \$11, several dollars less than it was five years ago. This will include transportation from and back to Boston, food, lodging, and entertainment at the Tavern. There is every indication that this coming reunion will be largely attended and that it will be an event which members of the Class will not wish to miss.

The Secretary is happy to report that our president, Dave Shepard, celebrated the arrival of a son November 23. His weight, four kilos, 70 grams, his name, David Allan, Jr. The Shepards, as you know, are now residing in Paris. — Lieutenant and Mrs. Dale Quarton announce the birth of a daughter on December 21. — Colin W. Reith has joined the staff of the Bahrain Petroleum Company in the Bahrain Islands, Persian Gulf, Iran. — Howard Humphrey who has been with the duPont Rayon Company in Tennessee reports that he is back in the New York office of his company. More important, he further reports that on October 15 his first child, a son, John Kimball, was born at the Vanderbilt University Hospital in Nashville — weight, seven pounds. Howard's work with the duPont Rayon Company consists of coordinating the cost control and industrial engineering activities in the three plants. — Richard W. Sherman, with headquarters in Bar Harbor, Maine, is active on a Federal Bureau of Roads project in Acadia National Park.

The Secretary had the pleasure of seeing Joe Levis in the finals of the Olympic Trials tryout last month. Joe easily won every match and again demonstrated that he is America's greatest fencer, one of the most difficult sports in the world. His place on America's Olympic Fencing team for the Berlin games is quite indisputable, and his friends have high hopes that Joe may win first place in the Olympics. In Los Angeles, you will recall, he placed second — the first time that an American had ever distinguished himself in the Olympic Fencing Bouts. Joe was responsible for bringing the Olympic Trials to Walker Memorial, and demonstrated again his great loyalty to Technology athletics and the Institute itself. At the Trials a coach of the Yale team, Mr. Grayson, paid a tribute to Joe that those of us there will long remember: "Joe," he said, "is one of the country's greatest athletes, and is unsurpassed not

only in skill but in sportsmanship." It is typical of Joe that on the evening before the Olympic Trials, despite all the responsibility he was carrying for the organization direction of the next day's event, he took time out to come to a meeting on our forthcoming class reunion and contributed fully and enthusiastically to its plans. — J. RHYNE KILLIAN, JR., General Secretary, Room 11-203, M.I.T., Cambridge, Mass.

1928

The following news article about Frank Wattendorf appeared in a recent issue of the *Christian Science Monitor*: "Air-minded China wants to know more about aviation than is brought back from America by its sons who come to this country for visits, surveys, and even studies. So the Peiping International College is planning to establish an aeronautical department. The problem of getting one of the instructors was solved by turning to Boston. Frank L. Wattendorf of West Newton, graduate of Harvard, M.I.T., and holder of a degree from Aachen University at Aachen, Germany, who has just finished teaching a course in aeronautics at the University of California was called. He was one of the consulting engineers in the building of the dirigibles *Akron* and *Macon*. He also served on the engineering staff in connection with the building of Boulder Dam. He is one of four Americans holding membership in the Royal Aeronautical Society of England. One of the other three members is Colonel Charles A. Lindbergh. Mr. Wattendorf, only 29, sails from Boston, Sunday, on the Cunard White Star motorship *Georgic*, for England, the first lap of his voyage to China."

We are pleased to announce the recent marriage of Clifford B. Terry and Miss Adeline H. Fellows, daughter of Mr. and Mrs. Ernest W. Fellows of Gloucester. Clifford is assistant superintendent of a manufacturing concern in Flushing, N. Y., where the couple will reside.

Charles Lyons is still with the Telephone Company in Hartford, Conn. He was married on December 29, 1934, in New York City. — We should like to enlarge this column with news from more classmates. Will you personally lend a hand by dropping a few lines about yourself and/or other classmates to the Secretary? — GEORGE I. CHATFIELD, General Secretary, 5 Alben Street, Winchester, Mass.

1929

Through the medium of the Christmas and New Year's greetings we have heard from a few of the Class again this year. Your Secretary appreciates these greetings personally as well as in his capacity as Secretary to the Class. It would be fine if more of you could just drop a card or a line at the holiday season as an annual *communiqué* to inform us of your whereabouts and your doings. Perhaps, if each of us would bear in mind some anniversary (commencement, wedding, holiday, or what have you) on which we could work up a bit of enthusiasm on the sub-

ject of these notes, we would have more frequent and voluminous news of interest to all of us.

It will please you to know that the memory of our friend and classmate, Bill Thomas, XV, will be kept alive at the Institute by a fund established by his parents, Mr. and Mrs. W. S. Thomas of Johannesburg, South Africa. The interest from this fund which, it is reported, amounts to more than \$900, will be available to the Athletic Association of which Bill was president during our senior year. Bill's death in an airplane accident in Africa in 1933 was a distinct loss to the Class and to the Institute. It was a great personal loss to those of us who knew him well.

The season's greetings from the Joel Whitneys, II, indicated that Joel is still located in Nashville, Tenn., and that he is the proud father of two handsome children. — Another photographic Christmas card was received from the Charlie Peases, XVII, portraying their husky son in a right jovial mood. If your Secretary judges rightly, Charlie had better start training right now, for this son of his is already about rugged enough to take on the old man. — Gratz Brown, II, forwarded his seasonal greeting from Flint, Mich., where he keeps A-C ahead of the field in an engineering way. The last time I was in Flint, I called Gratz and we had a fine time getting up to date. That was some months ago. He is still single and at that time was still working principally on air cleaners and silencers for gasoline and Diesel motors.

Mr. and Mrs. Adam Stricker, Jr., IX-B, sent their friendly Christmas wishes from New York City where Adam is still on the president's staff of the General Motors Corporation. Last year's card announced his appointment to that position and we can expect bigger things on the occasion of Adam's next advance in G. M. — Ken Beardsley, VI-A, extended his greetings in very clever combination with those of Miss Barbara Blake as a poetic announcement of their intention to marry, next spring. Ken is located in Pittsfield, Mass., which leads to the conclusion that he is probably with General Electric. — Jo Llánsó, II, and Mrs. Llánsó sent their wishes for a Merry Christmas from East Orange, N. J., where Jo is a sales engineer for Worthington Pump. If the writer's memory serves him correctly, Jo has been with Worthington since graduation and has never missed making this annual contact with the Secretary and in turn with the Class.

Ed Farmer, VI, and his wife sent their greetings from St. Johnsbury, Vt., where Ed teaches at St. Johnsbury Academy. On January 3 Ed must have gotten snowed in or something, for he wrote the Secretary a letter, the first in years, which is enclosed in part farther along in these notes. — Last but not least, Brig Allen, XV, sent his greetings from New Rochelle, N. Y., where he has taken over his father's real estate and insurance business. Brig had been with Reliance Electric and Engineering Company since graduation and in the last couple of years had charge

Plan to attend Alumni Day at M.I.T. on June 8, 1936

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of their Federal and Marine Sales office in Washington, D. C. Brig's father had been after Brig to take over his business for some time, and it has happened. Brig states: "Enclosed is a card announcing the arrival of an addition to the C. W. Denny family in Middletown, Ohio. . . . I have been home here now for three weeks, and am very busy trying to learn something about the insurance and real estate business. There is a good deal more to it than you would expect. I have four state exams that I have to prepare for and, starting in January, I am going to attend night school in New York two nights a week for several months. . . . I saw Ted Ewald in New York the other night. He is still with Young and Ottley and thinks that there is a possibility of his being promoted to a better job in the statistical department, the first of the year. He is playing with the Montclair Athletic Association squash team and as far as I can find out, spends most of his spare time at it." — As noted in Brig's letter, Charley Denny, XV, and Mrs. Denny are proud parents of a baby boy born on December 21 and named Charles Wampler Denny, 3d.

Another letter has just been received from Brig, attaching a clipping forwarded to him by Ted Ewald. Ted clipped it from the International Business Machine's house organ. It announces the promotion of Mac McDowell, XV, to the position of assistant to their vice-president in charge of manufacturing. While Mac is officially a member of the Class of 1930, he started with us, and because of illness in his junior year it was not possible for him to be graduated until 1930. Mac has had considerable experience in the corporation's sales engineering and manufacturing departments since going with them in 1930, and his outstanding performance in each of these endeavors brought him numerous promotions that have culminated in this latest advancement. Congratulations from the Class, Mac.

Newspaper clippings announce the engagement of W. R. Shannon, II, to Miss Christine Helmer of Dedham, Mass., and the marriage of Kenneth Campbell, XIII, to Miss Phyllis McElhone of San Francisco. The Class congratulates these members in their ventures into the matrimonial sea into which more and more of our fellows are plunging as time goes on. The question immediately suggests itself: What proportion of married men and single men will there be present at our 10th reunion?

I understand that Mac McDaniel, XV, has joined the Chrysler Motor Parts Corporation in Detroit, which would signify that he is no longer with Dewey and Almy.

Ed Farmer's letter follows: "I know you will wonder what has moved me to correspondence. Well, it is nothing else but your little note on your Christmas card. I am certainly sorry you couldn't locate me when you were in Lyme, N. H. We must have been in Maine at the time, for it was probably in June when you were there. I hope that you can get up

this way again, for Clara and I would love to have you and Judy make us a visit. — I had hoped to get down to the reunion, but as luck would have it, I was president of the St. Johnsbury Academy Alumni Association at the time and the alumni banquet which I had to promote came at the same time. . . . I saw Charlie Pease at Thanksgiving time while in Boston. . . . Harry Weare, I, is working on the metropolitan water supply down in Ware, Mass. I presume you see quite a few of the boys in the course of your travels.

"The world has been using me pretty decently since I left school, for I have at least had plenty to do. I am getting rather fed up on the teaching game, however, for I took the job as a sort of stop-gap until things improved in the engineering line. Things were rather flat when I got through school in 1931 and anything looked pretty good then. Being up here in the country has made it rather difficult to do any consistent job hunting, but I am casting about in hopes of landing something by the end of the present school year. Incidentally, if you know of any company taking on any new men, I would like to hear about it.

"If you ever get up this way, be sure to bring your golf clubs because we have a course here that I would like to see you break 80 on. We have a standing bet for all newcomers that they can't break 80 their first time around. This winter we are beginning to get excited about skiing, and it is a great country for it. I am in rather a tough spot for I am supposed to coach the ski team at school and I can't ski so well as the boys. Well I guess I have rambled enough. . . ."

Your Secretary extends an appreciative word of thanks for the Class to those members who are listed above and who contributed the information necessary to make these columns interesting. Let's all join in and tell the Class where we are and what is new with us. We will be interested, too, in what is old with a great many of the boys who have not been heard from in years. — EARL W. GLEN, *General Secretary*, Box 178, Fairlawn, Ohio.

1931

Given impetus by a good letter from Roy Chamberlain recently received, which letter will be included *in toto*, I take this opportunity to record the achievements of many members of the Class and to drive the entering wedge to your attention to our reunion and to Alumni Day which are soon here. Press notices and more formal announcements are my sources of information for the following: Mr. and Mrs. Clarence John Alfred have announced the marriage of their daughter, Jean Elizabeth, to Gordon Stanley Brown, August 24, in Orange, N. J. — Mr. and Mrs. Ben Perley Poor have announced the marriage of their daughter, Virginia Louise, to Helge Holst. This took place on August 28 in Burlington, Iowa. — Miss Katherine Bozeman Fletchall, daughter of Mr. and Mrs. Lilburn Clifford Fletchall of Northamp-

ton, was married on September 21 to Charles Pool VanGelder. They will reside in Woodbury, N. J., where Charles is with the Vacuum Oil Company. — Dr. and Mrs. Loyd Gally of Rome, N. Y., have announced the marriage of their daughter, Dorothy Elizabeth, to Leland Edward Gibbs. The couple will live in Rome. — Miss Elmira Horlow, daughter of Mr. and Mrs. Clyde Leonard Horlow of Wollaston, was married on October 1 to David Graham Smith. Milwaukee, Wis., will be the home of this couple.

News has come from München of the engagement of Miss Anita Wich, daughter of Mr. and Mrs. Frederick Wich of München, Germany, to Stewart Davis. No date has been set for the wedding. — Mrs. Louis H. Flanders of Rochester, N. Y., announces the engagement of her daughter, Miss Mary Flanders, to Harry Murray. — On October 12 Miss Rebecca Louise Kennard, daughter of Mr. and Mrs. William W. Kennard of West Medford, was married to George Deering Love. Among the ushers was Cobby Noyes. The couple are living in Saco, Maine. — Also on this day Miss Mildred French, daughter of Mr. and Mrs. Herman W. French of Randolph, was married to Bror Grondal, Jr. Herbert Allbright and Clement Hamblet were among the ushers. Mr. and Mrs. Grondal will live in Watertown. — Miss Matilde Bruce Rodger, daughter of Mr. and Mrs. Robert W. Rodger of New York and Washington, was married, November 28, to Edward Waples McKee. They will reside in Fort Worth, Texas.

Roy Chamberlain's letter follows: "After graduation I went to China and Japan on a trip as chief officer on one of the Dollar vessels. Had a great time and visited a lot of old friends. Conditions had changed in many respects since I had last been there in 1928.

"In the fall of 1931 I returned and entered Harvard Law School with the intention of specializing in admiralty. This course was very meager so I took the full course in general subjects. To practice admiralty it is necessary to be admitted to the bar as in any other branch of the law. The work at the law school was enjoyable, but believe it or not, I found that it took much more study than did the work at the Institute. The only exams were at the end of the school year and were the sole factor in the determination of one's standing. I was graduated with the Class of 1934 and was admitted to the Massachusetts bar that fall. I had made several contacts in the admiralty field, but, being a very restricted practice, openings are very rare. In December 1934 I became associated with Crawford and Sprague, 117 Liberty Street, New York City. It was necessary for me to live in New York for six months in order to take the examination for admission to the bar. The exam was similar to the Massachusetts exam except that it covered more ground and took two days.

"Admiralty deals with all branches of the law, but its origin is more remote than the common law and therefore differs in some of its concepts. My early

1931 Continued

training at sea and the naval architectural course at the Institute are very helpful. My firm is not restricted to admiralty practice as every firm takes what it can get these days. On January 1, I was admitted as a full partner in this firm. I had hoped to reach this goal within four or five years, but certainly did not expect it at the termination of the first year.

"Any time that you or any of the old classmates are in New York, I would be more than pleased to have you drop in. I see Harold Champlain every now and then and a few of the fellows from the naval architectural course. Champ, as you know, is with the United Fruit. Dave Arnott is with an insurance company on John Street."

A few other odd bits of information have reached me: W. Everett Swift is in the mechanical department of the U. S. Envelope Company, Worcester, Mass.; John E. O'Neill is now in Boston with the York Ice Machinery Company; Robert Leadbetter has left Worcester to go to Philadelphia for the Surpass Leather Company; Joseph Birdsall is in Cambridge again, studying anthropology at Harvard.

It is sad to have to report the death of Captain Standish Weston of the United States Army in October. Captain Weston was graduated from the United States Military Academy, from Oxford University, and from the Institute. He is survived by his wife and daughter.

Lastly, I should like to solicit suggestions concerning a reunion. Such an event, to be handled properly and in accord with the wishes of everyone, must be conducted with a knowledge of the number who might attend and of their desires. A post card addressed to the Secretary would be appreciated. — JAMES B. FISK, *General Secretary*, Room 6-108, M.I.T., Cambridge, Mass.

1933

Just previous to writing this the New York group held their January meeting at the Paradise Cabaret. Of course the reason for holding our meeting at the Paradise was merely the "good food." In spite of the atmosphere we had a very interesting get-together and saw a few faces we hadn't seen in some time.

Sky Sysko was there and reported his engagement to Miss Mary Sheehan and his present negotiations with several New York firms regarding employment. — Johnny Clark was down from Yonkers and reported his engagement to Miss Marie McWeeny. — Bill Conant is in the stock and production department of duPont Rayon. — George Woodman is with Gibbs and Cox here in New York doing merchant-marine work. He is married and is a proud father. — George Sweeney and Bob Dunleavy are with the WPA here in New York. — Marshall Wilder couldn't be with us but dropped us a line telling us he was on the engineering staff of Kenrad Corporation in Owensboro, Ky. J. M. Hollywood '31 is with him there. — I don't know where or when the next meeting will be, but we are leaving it to Ed Goodridge to arrange

for a good evening. If any of you out-of-town fellows get down to New York at any time don't forget to look up some of us. It is always interesting to hear of what's going on at other places.

Here's part of a letter I received from Cal Mohr in Buffalo: "The New Year finds me still in the employ of the duPont Rayon Company here with nothing much to report. Bill Scarborough, X-A, is with the company and has been in Richmond, Va., most of the year working on project work in the acetate rayon. He gets back to Buffalo about every two months. Bill Pleasants, I, was here in 1933 and early 1934 and went to Richmond when the new plant was built. Since then I have not heard from him, but I expect he is still there in construction work."

"Though I go home to Rochester quite frequently, I have not seen Bob Smith for over a year. I have talked several times on the phone with him, but we never seem to be able to see each other. He is still with Defender Photo in research and is most happy with his wife and infant daughter."

"The same gang who came with the company about the same time I did are still here and we have been having a most enjoyable time skiing and skating in the best winter weather we have had in years. — I am still single and know of no recent glad tidings among the gang." — Let's hear from you soon again, Cal.

And here are a few lines from Leo Keoylos at Katerina, Greece: "Up to date I had heaps of trouble and only recently landed a job with a reclamation project by an American company. It is a huge project aiming at the reclamation of several hundred-thousand acres of land and subsequently their irrigation. At present we are working near the Bulgarian frontier, which used to be a battlefield on several occasions, as well as very recently, and it is no infrequent occurrence to dig up a rusty bombshell that fell in soft mud 20 years ago and didn't go off then. You must be thinking it is an awful touchy job but it isn't so. It is all a matter of getting used to all sorts of trouble and it doesn't seem to worry us any more than the prospect of a new world war." — Glad to hear from you Leo — let's hear from you again.

And here's part of a letter from Bill Pleasants: "I wonder if mention has yet been made of Dick Morse's marriage in November to Miss Marion Baitz of Rochester, N. Y.? Dick is with Eastman Kodak doing research work. I saw the bride and groom about a month before they were married. Needless to say Dick has an eye for beauty and has found his mate in personal charm. Saw quite a lot of Lou Flanders when I was working in Rochester two months ago. He was then with Bausch and Lomb. He seems quite preoccupied, week-ending in Akron, Ohio. That's the extent of my personally obtained news of our Class."

"I was with duPont for two years: cellophane production in Buffalo for one year and power plant construction in Richmond for a year. I went from duPont

to Combustion Engineering where I am now. Just at present I am training in their main manufacturing shops at Chattanooga to become a service engineer. In a month or so will start trying to do an 'Eddie Miller' all over the country. Hope to run into many of our classmates on my travels." — Glad to hear from you Bill. When you stop in New York during your trips look us up.

A line from Norm Harris: "You might be interested in my travels since last year. I'm still with the Liberty Mutual Insurance Company, selling auto, fire, and compensation insurance. I had a nice office at Gloucester, Mass., last year this time but the Company felt they didn't want any more business in Massachusetts and as a result I was transferred to Washington, D. C., last February. I enjoyed my stay there and saw Ed Lloyd several times; Frank Koerner came down for his visit; and I roomed with a Course XV man, George Wuestefeld '34 for a while. I also took in one or two alumni dinners but found most of the members there were old 'grey beards,' long in government service but very much the high-grade technical men of which M.I.T. is justly proud."

"On November 1 of this year (1935) I was transferred down to where the South begins — Richmond, Va. — where I have been now nearly three months. My job is the same, selling. As I am the only automobile insurance salesman in Virginia for our Company, my future seems to depend on my success to produce some business in Richmond. If I do that, then it will be my task to start other men in the other cities — so I sort of have my future lined up for me."

"I just had a note from Frank Koerner and he's gotten another job with the Glass Container Corporation and is living in New York. Incidentally, he accepted my invitation to be best man at my wedding the last of April! 'Woe is me,' as he says, 'another man gone wrong!' — Well that's the story for this time — let's have some more letters from out there. — GEORGE O. HENNING, JR., *General Secretary*, 163 Barbey Street, Brooklyn, N. Y. ROBERT M. KIMBALL, *Assistant Secretary*, Room 3-107, M.I.T., Cambridge, Mass.

1935

Heigh-ho gang, here we are with another month of news to relate. The letters from which these notes are composed show a rather surprising state of affairs. Of the 19 letters I received during the month, eight were from graduates of Course XV. Looks as though the advertising men are trying to get a little free advertising for themselves. At least one fellow has complained about the dearth of news in his particular Course. Now I ask you, how can I report about a Course if none of the fellows in it have ambition enough to write to me?

Starting with Course II, Ham Dow wrote to me about his adventures on board the destroyer, U.S.S. *Phelps*. Ham was out on the official acceptance trials of the boat. He and Sid Fox, X, have

Plan to attend Alumni Day at M.I.T. on June 8, 1936

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joined the crew of "munitions makers" along with Eddie Woll and Fletcher. They are in the design department of Bethlehem Shipbuilding Corporation. Ham reports: Pres Smith is with Pratt and Whitney in East Hartford, Conn.; George Kevorkian is with a firm of consulting engineers in Boston; George Glaskaws is with a manufacturing firm in South Boston; Dick Cook is with a textile mill in Lowell. Ham writes: "Following graduation I went down to O.R.C. Camp (Ordnance) at Raritan Arsenal, N. J. I completed a week, then was taken sick, and finished my camp period in the Army hospital at Fort Jay, Governor's Island, N. Y. (You see I became ill when on week-end leave in New York City.) After returning home to Boston, I had a recurrence of that illness and went to the City Hospital. I never quite regained my health all summer and all the physicians who attended me could make no real diagnosis of the trouble. The best reason I can give is the let-down from school work. Since I've been at Fore River, I've been in good health. On September 18 I became one of the happy grooms of our Class: Miss Edith Doshim of New York City was the bride and it all happened in Rye, N. Y." Congratulations, Ham, and lots of luck in life. — Art Hamilton dropped me a line also. He is working for General Electric, River Works, in Lynn, Mass. He is working on time studies and planning — one of those "efficiency? guys."

I have only one letter from the Course III gang this time, but it's such a good one that I'll give it to you verbatim: "... What's the tremendous idea of leaving out all information about Course III in those voluminous notes in the January issue of The Review? Information you want? You'll get it! Behold! Dash-nag Arakelian is back in Peabody, Mass., ... claims he couldn't take the shift work on his job with Gulf Refining in Philly. I know as a matter of fact that the attraction of the dear sweet one back home was too much to resist. John Ryan is with Bethlehem Steel. Johnny is busy winning the hearts of certain Bohemian, Yugoslavian, Czechoslovakian, and other Transcaucasian, Trans-Danubian lassies. Casanova, Gable, Cellini, Don Juan, and you other like people! Beware of the Balkan threat! Mal Porter is with Montana Lead, Inc., Rimini, Mont. A thousand to one he still wanders o'er the hills, picking up mineral specimens and exclaiming: 'Elegant! tremendous! Did you ever see such a specimen?' Stan Lane is with the American Smelting and Refining at East Helena, Mont. He is busy telling everybody what a narrow escape he had from the earthquake. Phooey to him from me! He probably didn't know that there was an earthquake until he read it in the papers. Laddie Sanderson is also with the American Smelting and Refining at their Baltimore plant. Sandie is as untrue a Scotsman as I ever saw, for he offered to me, free of charge, 15 second-hand crucibles. Alas! Our second Scotsman, Mal Porter, cut me out by bidding one cent per crucible. Ed Clark and

Bob Clarke are still at Tech. It is rumored they are seeking assistance to enable them to purchase two new brown bags since the ones which they purchased as freshmen have been mutilated beyond description. Bob Madden is with Bethlehem Steel at Johnstown, Pa. I can't understand Bob's treason to the miners and ore dressers. Imagine a perfectly good guy turning metallurgist, of all things. Some time last summer a certain Frank Lovering accompanied by a Model T disappeared from Medford, Mass., seemingly headed for points west. Weeks later he lifted his head above 'the madding crowd's ignoble strife' somewhere in Tulsa, Okla., and kept it there long enough to say 'Gotta job with an oil company. Tough work.' Frank, 'Love is the Sweetest Thing.' Jim Eng is with Halcomb Steel, Syracuse, N. Y. How's the oriental situation, Jim? Jorge Villa has returned to Colombia. Whether or not he is the president of Colombia, or an organizer of a revolution, or in the mining game, I don't know. I, James E. Casale, do not know the exact geographical location of John Seaver, John Brosnahan, and Mort Jenkins. As for myself, I have been doing a little rambling around these 'yere' Western states since last June. I worked as a mucker, timberman, and so on, for two months in the Climax Molybdenum mine at Climax, Colo. Boy, what names: Howling Wolf Canyon, Arkansas Gulch, The Crazy Swede's Claim, The Widdy Wimmin! Then more mucking for three weeks in the U.S.S.R. and M. Company mine (not a Soviet combination) at Bingham Canyon, Utah. Finally I got a good job as mill operator in the Magna Mill of the Utah Copper Company, where I have found my niche. If God, Kismet, Signior Mussolini, and the price of copper permit, I shall remain here indefinitely. If not, 'Oi mine heart iss gebrochen' (as 'tis said in La Provincia de la Romagna, L'Italia) and I shall seek employment in more of these 'Howling Wolf Canyon' joints. In closing I must remind you that I am an engineer, not a stenographer, not a secretary, not an author, not a Winchell." Seems to me as if Jim were quite a bit of a Winchell, and from the tone of the letter he must be having a time such as only James E. Casale can have.

A bit of news from Course V: Leo Epstein was finding the going rough, when last heard from — he had not at that time landed a job. We hope that he has been successful by now. Gordon Gott was with the Massachusetts Gas Company for a time, and is now working for Dewey and Almy Chemical Company, in Cambridge, Mass. He likes his work very much and especially as it is close to his home. (I wonder if there is a female attraction in the picture.) He is doing research in rubber. Good luck to you, Gordon.

Turning to Course VI, Stan Howard is at Schenectady with General Electric, where he has been promoted to the radio transmitting office. Otto Zwanzig contributes the following: "Here is a little additional dope on VI-A. I had a letter

from George Dunlap from way down South at the Panama Canal where he is on the engineering staff. He writes: 'I'm having plenty of fun and am getting lots of practical experience. My work here covers anything from underground cable to hydroelectric generators, to marine radio, to automatic telephone systems. I could rave on for hours about the benefits of a swim every day (I was in for an hour this A.M., December 17), nine-cent gasoline for the flivver, tropical nights and so on, but knowing you to be a serious-minded fellow with a purpose in life, I'll stop and let you imagine it.' George writes also that he is not at all sure yet that he'll come back North after his first year is up, but may stay there for a second year and perhaps even indefinitely. Heard also from Paul Herkart during vacation. He is now employed by the R.C.A. Manufacturing Company in Harrison, N. J. He stated that he is enjoying his work immensely. By the way, I should like to let Stocky, Bill Parker, Ed Helwith, and the rest of the gang in on this evening 'blow-out,' know that Paul may be the first one to stand treat (even before you, Stocky), for every time I try to see Paul he's got a date to take a certain young lady to the symphony or some such intellectual entertainment. By the way, VI-A gang, let's hear from you so that the rest of us may know what you, as individuals, are doing." Otto expects to be job hunting very shortly, as he has nearly finished his work at school. He also enclosed the VI and VI-C placement status, which I'll give here just as it was sent to me: M. S. Alexander, salesman with the Gamewell Company, Newton, Mass.; J. H. Anderson, Delco Products Division, General Motors Corporation, Dayton, Ohio; L. V. Baldwin, Metropolitan Edison Company, Reading, Pa.; B. B. Brownell, Delco Products; J. R. Burton, Jr., graduate student, Harvard Graduate School of Business Administration; R. S. Carr, International Business Machines Corporation, Endicott, N. Y.; K. Y. Cheng, completing his studies at the Institute; P. E. Davis, Jr., status unknown (Note by R. J. G. — I have information indicating that Davis is with the Carolina Power and Light, Sumpter, S. C.); C. N. Debes, Electrical Engineering Department, International Harvester Company, Chicago; J. T. Cook, unemployed; L. H. Dee, completing studies at the Institute; E. K. Dougherty, graduate student, Harvard Graduate School of Business Administration; B. Dudley, Radiotron Division, Radio Corporation of America, Harrison, N. J.; T. W. Hafer, employed with father, but not on technical work; W. L. Howell, Jr., Radio Engineering Department, General Electric, Schenectady, N. Y.; M. Kleiman, expected to be at the Institute for second term to complete studies; A. Q. Mowatt, West India Chemical Company, British West Indies; L. W. Pflantz, Jr., unemployed; S. H. Seeleman, status unknown; R. D. Smith, factory, Mutual Fire Insurance Company, Boston; J. F. Taplin, Foxboro Instrument Company, Foxboro, Mass.; F. R. Trifari, unemployed; F. S.

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Walters, status unknown; C. C. Wilson, Ward-Leonard Electric Company, Mount Vernon, N. Y.; R. D. Campbell, graduate student and instructor, University of Kansas, Lawrence, Kansas; W. E. Clapp, expected to return to the Institute, second term; L. B. C. Fong, no permanent position; P. A. Guarino, Hytron Tube Corporation, Salem, Mass.; P. R. Hanson, laboratory assistant, Champion Radio Works, Danvers, Mass.; G. D. Johnson, Jr., status unknown; G. P. Knapp, Champion Tube Works, Danvers, Mass.; A. R. Knoeppel, unemployed; P. E. Koenig, Koenig Oil Investment Company, Dallas, Texas; N. S. Kornetz, textile research, M.I.T.; J. H. Lancor, Jr., conducting radio listening survey for Professor Elder and completing studies at M.I.T.; L. S. Lappin, Cornell-Dublier Corporation, New York, N. Y.; E. R. Millen, status unknown; A. Packard, American District Telegraph Company, Dorchester, Mass.; G. C. Rich, Hygrade Sylvania Corporation, Salem, Mass.; J. A. Rodgers, status unknown; H. Small, graduate work, M.I.T.; E. J. Suarez-Buchaca, expects placement with International Westinghouse Company; V. K. Ulrich, Editorial Department, *Radio Today*, New York, N. Y.; K. D. Young, Hygrade Sylvania Corporation, Salem, Mass. Why don't you fellows write to me so I can publish more than just placement?

A couple of letters from Course VII fellows give the following: Jerry Farr is enjoying his work very much at the Readville Distilleries, Boston. Barc Bloomgarden has not had very good luck with regard to jobs but certainly had an amusing experience. I'll let him tell it: "My own record has not been very bright, for all that I can boast of is a month's employment in R. H. Macy's before Christmas, selling Micky Mouse movie projectors. A funny incident arose there: The boss knew that I was a Tech man and took advantage of it on one occasion. Some old lady was looking at the projectors, which incidentally sold for \$1.98, and asked her salesman about the diffusion caused by the lens. Well the poor fellow never heard of the word before and called over the head man. He knew even less. 'Just a moment,' he said in true Macy style (note rules and regulations pertaining to the manner in which a customer is to be addressed, on page 26 of 'Macy Salesclerk System Book') 'we have a man here who is a graduate of the M.I.T. I'm sure that he will be able to help you.' Well please believe that I showed no mercy to the poor old lady. Ever since I started with 8.01, I swore vengeance that some day I would unleash with the fury of a wild man all that silly stuff that was crammed down my throat. I started with *F* equals *Ma* and ended up with a discussion of sinusoidal curves. 'Do you understand?' I gasped, as the last equation that I could think of escaped my lips. 'Oh yes indeed, young man, and thank you very much for the explanation, but can you tell me whether or not the pictures show in color?' " While in New York City Barc ran across

Dave Greenlie. Dave is working on a bacteriological problem in the Tech labs and is being paid for it. Barc said that he looked too darn prosperous.

All I can say to the Chemical Engineers is that Ralph Jacobson is in the control laboratory of Massachusetts Gasoline Company, and that Rollin Morse is working as a chemical engineer for the Standard Oil Company of New Jersey. Rollin is located in Aruba, Dutch West Indies, an island which is 18 miles long and three miles wide, and is 160 miles off the coast of Venezuela. There are about 200 Americans there. He will be there for 18 months and then return for 30 days in the States.

Art Haskins did a good job for the Naval Architects this month: He sent me quite a bit of information, including a few letters. Ted Earl is with Art in Bath, Maine, and is checking possible reductions of weight on the boats. George Morrisette is working for the Federal Shipbuilding and Dry Dock Company in Kearny, N. J. He is in the estimating section and is working on the Navy changes in the destroyers being built there. Most of his work is clerical, but part of the time he works on the estimates for the changes. Reggie Iodice and Ted live together in a private residence in Kearny. Reggie is working in the sheet-metal department. They both make the trip home every other week. Reggie seems to think that the women in that region are a bunch of gold diggers. Herb Solibakke is working for the Hull Technical Department in Newport News, Va. Most of his work so far has been the making up of tables of tank capacities. He says that most of the fellows in the office are young and a fine bunch to work with. His only complaint is that they keep a fellow on one job too much, with a consequent difficulty in becoming acquainted with the work as a whole. Clyde Leavitt has a new Ford V-8 and is working in the drafting room at United Dry Docks, Inc., New York. Frank Simonds is with the Atlantic Refining Company in Philly. He has his chief engineer's papers now and is in an excellent position to combine his technical education with experience.

Well, bookkeepers, here's your advertising: Bob Olsen is working for McKay Company in Pittsburgh, Pa. He says that even Professor Elder would go crazy over the discounts that they figure. They run: 50-5-5-5 for a standard order and 50-5-5-5-10-10 for real large orders. Bob has been figuring quotations on commercial chain at McKay. He reports that Morrison and Forster are still with York Ice. Bob also added to our information about Stan Lane and the earthquake: It seems that Stan returned one evening from a binge and found a piece of plaster three quarters of an inch thick reposing on his bed. Bill Bennett dropped me a line: He is working for the Buda Company, manufacturers of Diesel engines in Harvey, Ill. He spent a couple of months each on assembly, testing and readjustment, and road service. Just now he is working with one of the older engineers on the experimental development of a new Lanova-type Diesel

engine. Bill hopes to get into sales eventually. Charlie Bowen is in the planning department of General Electric in Bloomfield, N. J. Each week-end he makes the trip to Scarsdale to keep in touch with civilization and to sleep in a bed long enough for him. Don Taylor is with Bethlehem Steel in New York City. Bob Flood is working for Oxweld in Elizabeth, N. J. Dick Lawrence is with Moore and Kling, Inc., in Boston, designers of pumps, tanks, and so on. He likes his work there and has plenty of variety, including advertising, selling, engineering, drafting, and other things. Irv Banquer is at present depending upon his Bale Pin Company for amusement and remuneration. He fears that it will always be his stand-by.

Paul Gerard is working for Ford in the Rouge plant. He is going through the whole plant in seven months and is holding as many jobs as possible. He says: "I've been on the line . . . and let me tell you that keeping up with the d— conveyor is no sinecure. I never thought a Ford engine could have so many sharp corners to tear one's hands on." In proof of the value of theses, Paul says: "Let me tell you of a highly embarrassing situation: Since I have been here I have been trying to get some one to read the thesis I wrote at Tech on some experiments on a Ford chassis, but to date I have been unable to find anybody interested enough in wasting the time. Maybe I had better shelve that apple of my eye, that masterpiece, — in other words — my thesis." Al Frank is with a large chemical concern in Wilmington, Del. I'll finish off the news about the XV boys by quoting one of the most humorous letters I have received, being from Bill Rothen: "Your so-oft-repeated request for news of the departed brethren of '35 has been troubling my conscience for lo, these many Technology Reviews. So I thought I would sit down and Corona out my post-Technology tale. From the corner card (technical phrase) of the envelope you may already have gathered that I am employed by the firm of Hoffman-LaRoche, Inc., in Nutley, N. J., 'Makers of Medicines of Rare Quality.' I use the term 'employed' guardedly, for at times it seems that I should pay Roche for letting me stay around. One undoubtedly learns a lot at M.I.T. — everybody says so — but not nearly enough, even in Course XV. The manufacture and sale of 'ethical specialties' is a law unto itself; I have seriously considered taking a pre-med course and pharmacy curriculum — not too seriously you understand, but it goes to show what a devil of a lot there is to learn in every individual business. My job in Nutley is officially labeled: assistant to the manager of the Retail Druggists' Division. Now I know what sort of a life the assistant directors in Hollywood lead. Really, though, the job is very interesting. It is all wrapped up with sales promotion and advertising — trying to get druggists to sell more Hoffman-LaRoche medicines. I have been writing letters and post cards for the edification

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of M.D.'s, drawing up marketing maps, chaperoning shipping labels for thousands of sales-talk postals between stenographer and shipping room, and trying to get up reports which will show the effect of my chaperonage. Professor Schell was right when he said you don't begin to write reports until you get out of school. When you do begin there seems no end. Just this week, however (December 12) my boss has come to recognize my worth (*sic*) as a copy writer and has given me a chance to write ads for drug journals. It's interesting work, but I'm glad I don't have to buy the pencils. Boston (and allied municipalities) seem to draw the sons of Tech with an irresistible force. I've been back for a couple of week-ends this fall and ran into Charley Lucke '34 and Ed Chiswell '34 at the James Putnam House and Paul Germond at Hartwell Farms — all taking it easy away from the (new) grind — nothing but a bunch of rounders I'd say. I do miss the Institute though and the gang, isolated as I am in Nutley 'by day' and Bloomfield 'by night.' I haven't had a chance to get around to the Technology Club in New York City for any beer fests *et al.* It's a great help to read in the alumni notes about the doings and misdoings of 'all the laddies.' I only hope that the Army or whoever it is to whom you are enslaved doesn't give you so much work to do that you have to neglect these far more important duties. I really didn't mean to run over onto a second page: It's probably way past your bedtime and you've got a heavy date tomorrow night, but I got carried away with the spirit of those blessed good times we had way back in college days. Bill may be right about the bedtime, but as for the heavy-date business, if he could only be here for a week, he would realize that it is next to impossible. I have not been on a date since I arrived and don't expect any in the future.

Now just a bit of news about the sky boys. Randall Smith broke into print, January 5, with the announcement of Miss Barbara Belling's engagement to him. Congratulations Randy. Harry Gallay is employed by the Ontario Provincial Air Service. He says that it is a rather unique organization which operates about 20 aircraft on floats and skis for use in forest fire detection and suppression. He is doing drafting and designing on some planes that they are building there for their own use.

Just a bit of additional information which came in too late to get into the proper course items: Al Greenlaw claims the record for number of jobs held since graduation, having had five at the time of writing, January 11. He started in Boston as a repair man on refrigerators, then returned to his home state to take a job in Bangor as an air-conditioning engineer with the Gar Wood dealer in that city. He then went back to Boston to take a job with the Timken Oil Burner Company, as a service man. While working there he got another job, teaching night school at the Lincoln Institute. He then got his present job with Tuttle and Bailey as a testing engineer on their grills and gave up the job with Lincoln Institute, which has since been taken by Eddie Woll. He says that Oscar expects to have a crackajack relay team this year. Al plays badminton during his spare time and has the nerve to recommend it. — A post card from Murray Brown reveals: "The day after graduation I left for a draftsman's job with the bridge department of Northern Pacific Railroad in St. Paul, Minn., and had rare experience under their grade-crossing program designing and drafting on bridges from St. Paul to the Coast. On January 4, I was offered a better job out in Glendive, Mont., as rodman on the Yellowstone Division, Northern Pacific Railroad extending from Mandan, N. D., to Livingston, Mont. (556 miles). I am now cooling my heels at Glendive at the rate of 20 degrees to 40 degrees below zero. We hop all trains and go out on speeders (put-puts). My Gladys (Gladys Mae Brodhead) is coming out, February 7, to St. Paul where we will be married, then we'll high tail it for Montana and my pay checks. I see some coyotes occasionally while out on surveys. (Men *used* to shoot each other in Glendive for fun a while back.)"

Part of last month's news had to be omitted, so I'll give it to you now and let you know that Peeper Johnston was in Boston for a week-end, Bud Taft is highly enthusiastic about the duPont kingdom, and Don Gutleben is having a swell time on the Panama Canal. I'll give you part of Don's letter: "Five of us, Dick Brown, II, Ernest Dockstader, II, George Dunlap, VI-A, Nels Thorp, XV, and Don, II, left on the Panama Railroad boat *Ancour* from New York on July 2. We arrived at Cristobal on July 10, after a stop at Port-au-Prince, Haiti. Since our pay started on the

2d and our passage was paid by the government, we really enjoyed the trip a lot. The food was great and none of us was seasick, although after leaving Haiti there was a little rough weather.

"We were met at Cristobal by Earl Murphy '34 and, after passing customs, all of us except Brown hopped aboard the Transcontinental Limited and within about an hour arrived at the Pacific Ocean. I had been assigned to the locks division on the Atlantic side at Gatun, but was shifted to the Pacific locks, so I got off at Pedro Miguel about seven miles from Balboa and Panama City. I didn't mind this shift at all because on the boat I had met the superintendent of the Pacific locks and his niece, so that at least I knew somebody on this side. Jack Carey '34 was also working on this side.

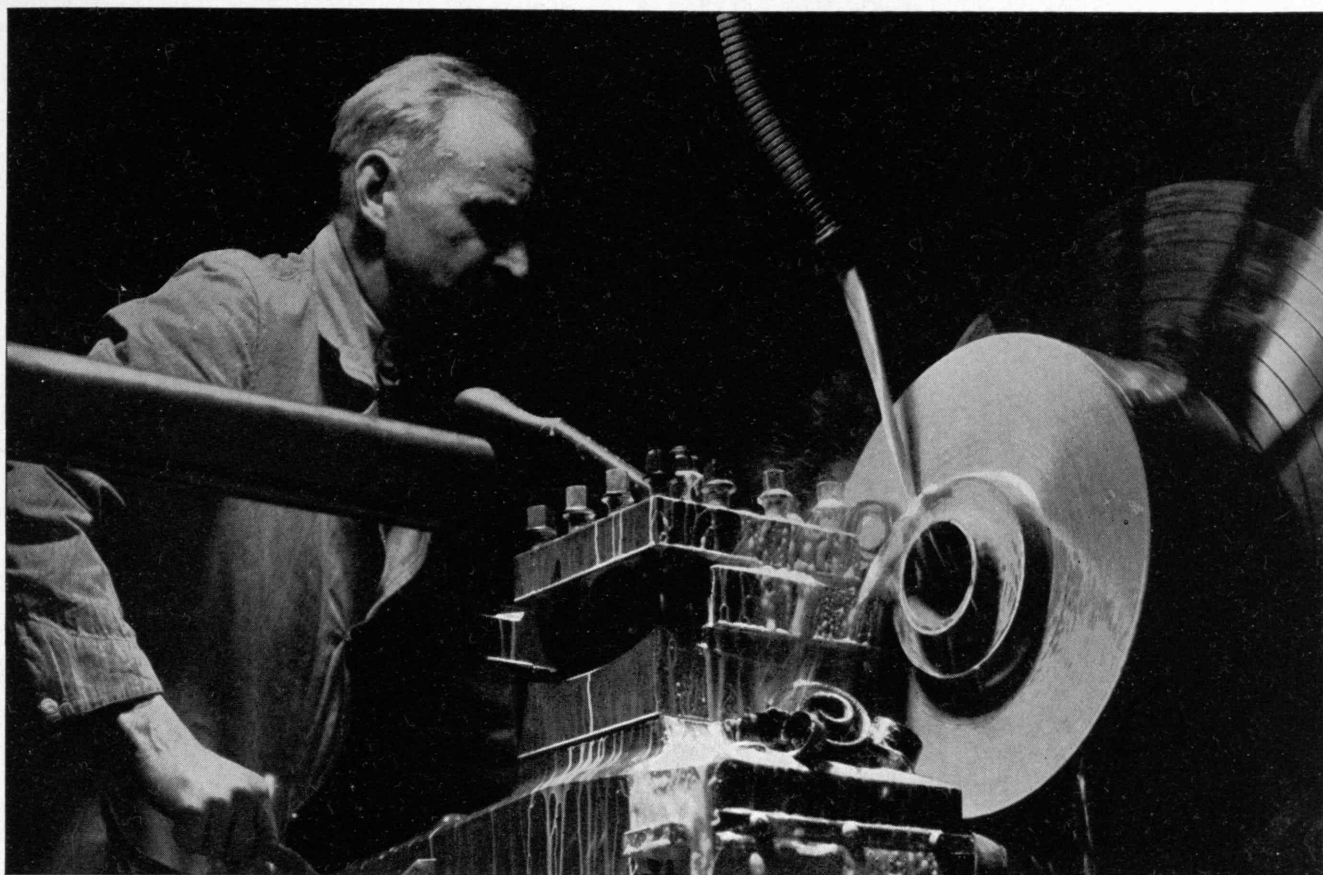
"By this time, Thorp has been shifted to the storehouse on the Atlantic side and Brown has come over here in the cold-storage plant. There is no road across the Isthmus, but we have monthly passes on the railroad, so we get back and forth quite often. I've sure been enjoying my work on the locks. The first few weeks I just mosed around and got a good idea of what it was all about. For a while I helped overhaul some of the hoisting equipment on the emergency dams. I operated the electric towing locomotives that pull the boats through. This is great fun — it's like driving a trolley with a few more handles thrown in for good measure to regulate the cables. I had a good view of the President last month while helping to pull the U.S.S. *Houston* through. I've been making quite a few drawings of the air and water lines of the locks. Then every once in a while a problem comes up which I have to attempt to solve.

"There's plenty of social life around here — in fact almost too much. A bunch of us always gets together Saturday nights for dancing at some one of the smooth clubs in Panama City."

Mardy Marderosian has not been fortunate so far in job hunting, but reports that Phil Kurz has landed one with the Norfolk Paint and Varnish Company.

How about you fellows dropping me a line about your experiences, be they embarrassing, humorous, or enjoyable. Lets have the news of all kinds. — ROBERT J. GRANBERG, *General Secretary*, 172 Water Street, Eastport, Maine. JOHN D. HOSSFELD, *Assistant Secretary*, 23 Hale Street, Beverly, Mass.

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BEHIND THE TOOLS OF INDUSTRY

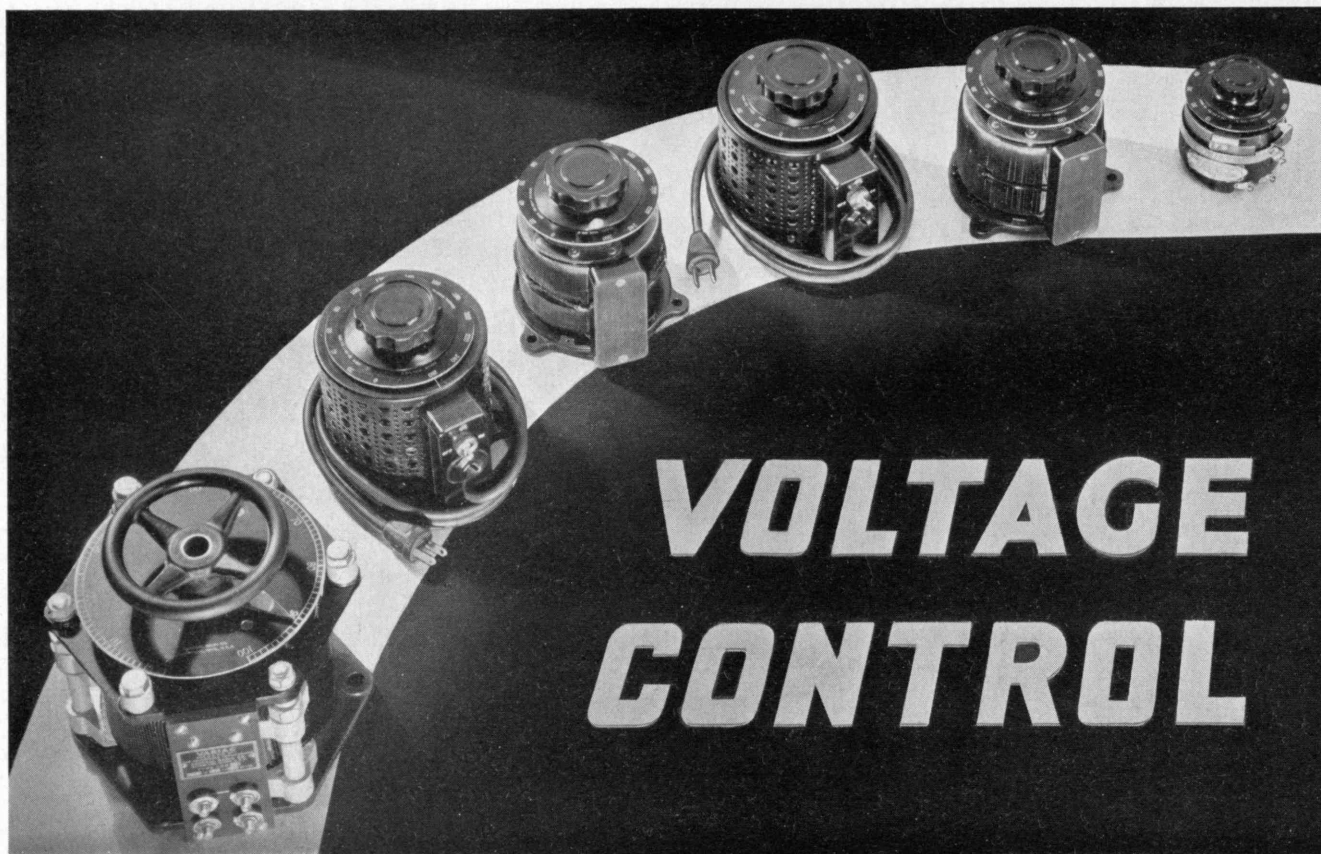
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